

D23 CATALOGUE BOX
COOLING (EXCEPT CEILING FANS)

1960

CATALOG 3590

PATENT OFFICE

JAN 12 1960

DIVISIONS 81 & 82

DIEHL

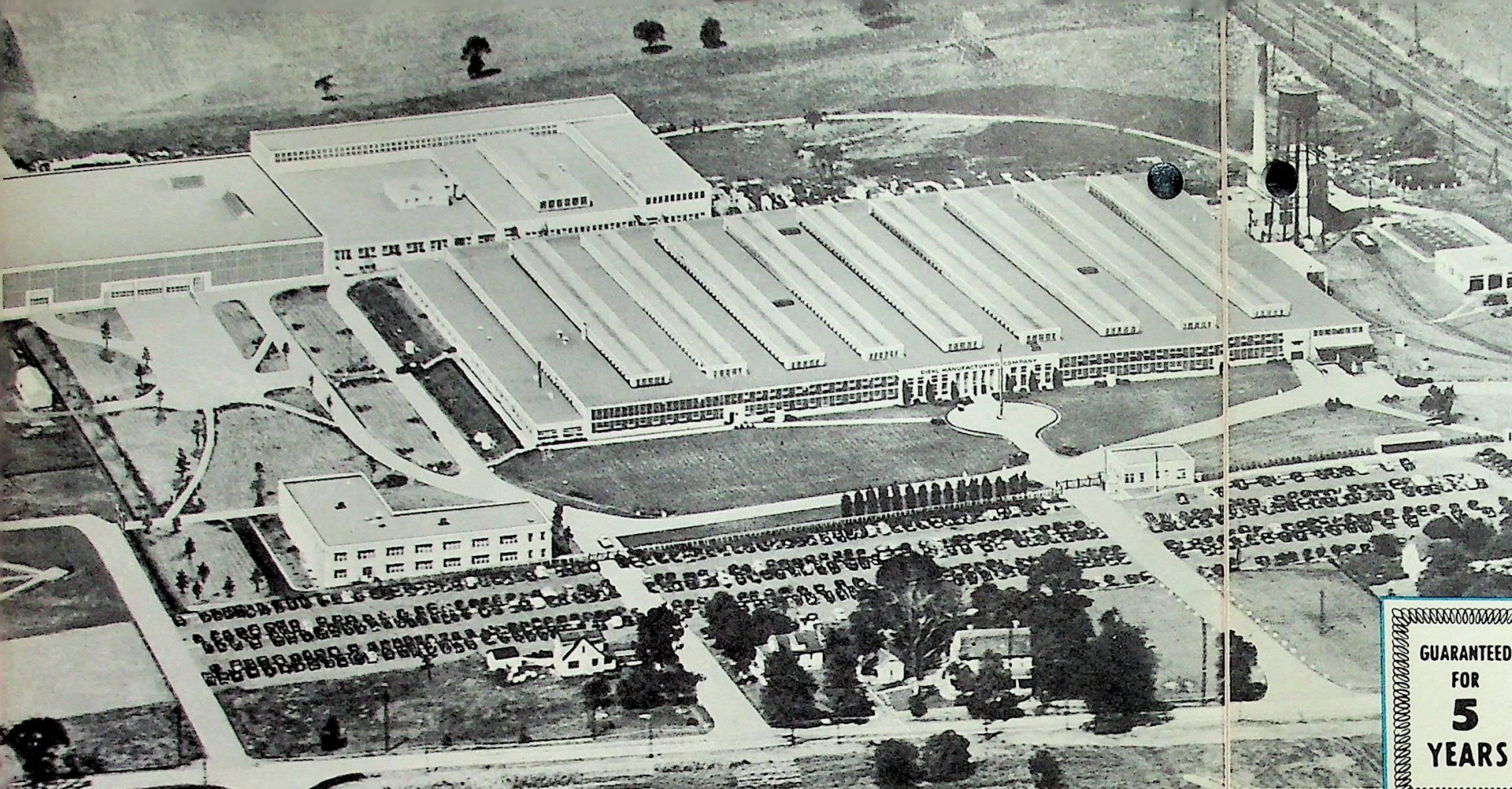
INDUSTRIAL FANS AND ACCESSORIES

RETURN TO
DESIGN DIV.

For Home and Office Fans, Window-Type Ventilators,
and Attic Ventilators, refer to DIEHL Residential-Commercial Fan Catalog.

Diehl

A.I.A. File No. 30-D-1



Finderne Plant, SOMERVILLE, N. J.

GUARANTEED
FOR
5
YEARS

INTRODUCTION

PATENT OFFICE

JAN 12 1960

DIEHL* Industrial Ventilating Equipment illustrated and described in this catalog combines the best time-proved construction and operating features, with the most modern engineering design. They are products of DIEHL experience in the development and manufacture of quality motors and ventilating equipment for three quarters of a century. During that time the DIEHL continuing program of growth and development has resulted in a steady stream of new and better products for residential, commercial and industrial use. This extended experience, plus the mechanical ability of our parent company, The Singer Manufacturing Company, has been utilized to make DIEHL Fans comparable in excellence to the world-famous SINGER** Sewing Machines.

GUARANTEE

All DIEHL apparatus is guaranteed to be free from electrical and mechanical defects for one year (Fans—five years) after date of purchase for use, and will be repaired or replaced at the option of the Company without cost to the purchaser for parts or labor if proved defective within the established guarantee period. The Company assumes no other obligation or liability. Transportation charges to and from the DIEHL factory, sales office or authorized service station must be assumed by the customer.

TERMS—FREIGHT ALLOWANCE:—Terms 2% 10th prox., net 30 days. On all orders covering the apparatus listed herein weighing 200 pounds or more, freight will be allowed and prepaid to point of first destination in the United States. Transportation will not be allowed in lots of less than 200 pounds.

SHIPPING INFORMATION:—Claims for freight allowances should be supported by receipted freight bills. In the absence of definite shipping instructions, shipments will be made from such point and by such routing as we consider best.

REPAIRS:—To obtain repairs, return the apparatus to the dealer from whom it was purchased or to the nearest DIEHL district office or authorized service station. NOTE: Apparatus must not be returned to the DIEHL Factory without first obtaining a Return Material Tag and shipping instructions from the factory or nearest district office.

LIABILITY:—The DIEHL MANUFACTURING COMPANY shall not be liable for delays resulting from causes beyond its control; such as fire, embargoes, inability to obtain necessary materials, labor or manufacturing facilities; nor in any event, for consequential damages.

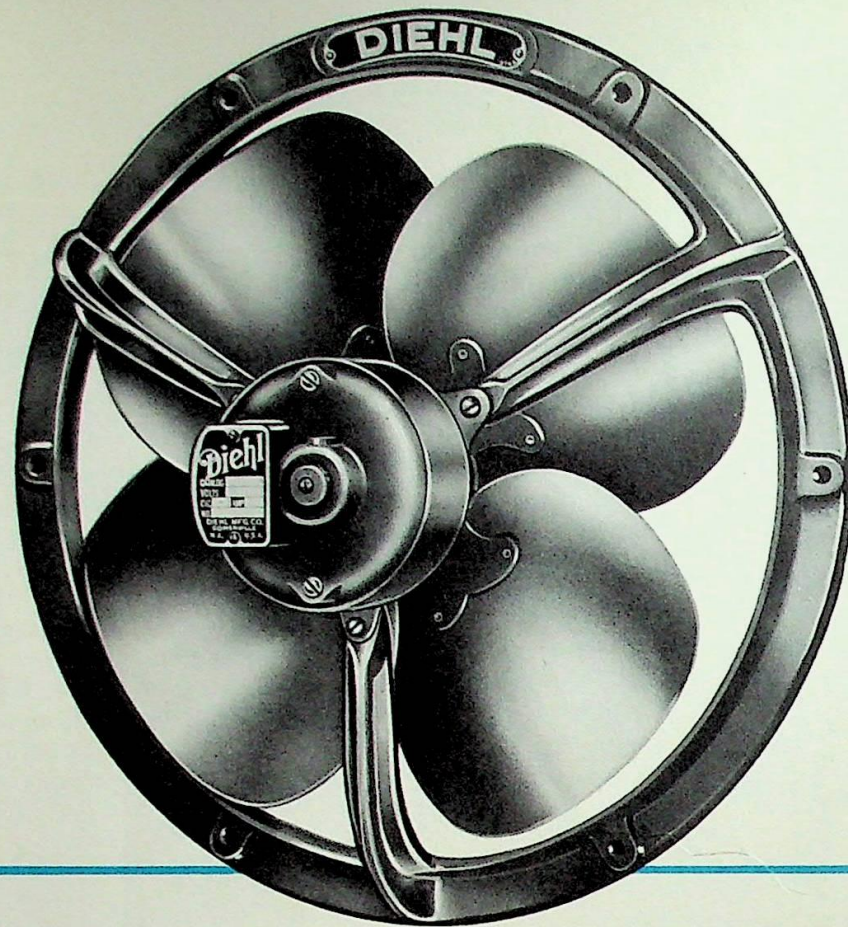
PRICES, SPECIFICATIONS AND MATERIALS are subject to change without notice.



* A Trademark of DIEHL MANUFACTURING COMPANY

** A Trademark of THE SINGER MANUFACTURING COMPANY

VENTILATING FANS Low Pressure Direct Drive 10, 12 and 16 Inch PAGES 4-5	EXHAUST FANS Low Pressure Direct Drive 16 to 36 Inch PAGES 6-7	EXHAUST FANS Low Pressure Belt Drive 24 to 48 Inch PAGES 8-9
EXPLOSION PROOF EXHAUST FANS Low Pressure Direct Drive 16 to 24 Inch PAGES 10-11	HEAVY DUTY EXHAUST FANS High Pressure Direct Drive 18 to 48 Inch PAGES 12-13	HEAVY DUTY EXHAUST FANS High Pressure Belt Drive 24 to 48 Inch PAGES 14-15
AIR CIRCULATORS Oscillating and Non-Oscillating 20, 24 and 30 Inch PAGES 16-17	POWER ROOF VENTILATORS Belt, Direct and Remote Control Drive 12 to 60 Inch PAGES 18-19	POWER ROOF VENTILATORS Heavy Duty Direct Drive 20 to 60 Inch PAGES 20-21
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DUCT FANS Belt Drive 12 to 42 Inch PAGES 26-27	ACCESSORIES PAGES 28-29	APPLICATION DATA PAGES 30-31



Low Pressure Direct Drive Ventilating Fans

10, 12 and 16 inch

For Ventilation and Cooling of Moderate Sized Areas

Sturdy, efficient and economical fans for ventilating work areas, lavatories, kitchens, etc. that require only limited volume air movement. Excellent also when used in multiple for controlled, draft-free ventilation of poultry houses, dairy barns, etc. Best results obtained when operated with free air intake and exhaust.

- Powerful, totally-enclosed dust-proof, pre-lubricated shielded ball bearing shaded pole motor, specially designed for fan service.
- Broad, deep-pitched blades provide maximum air volume with minimum air hum.
- Rugged cast iron mounting ring with integrally cast arms which support the cast aluminum-alloy motor housing.
- Connection box on motor end-cover for $\frac{1}{2}$ -inch conduit or BX.
- Can be mounted with shaft horizontal or vertical, motor above or below fan.
- Square steel mounting panel available at additional cost.

ALTERNATING CURRENT—60 CYCLES

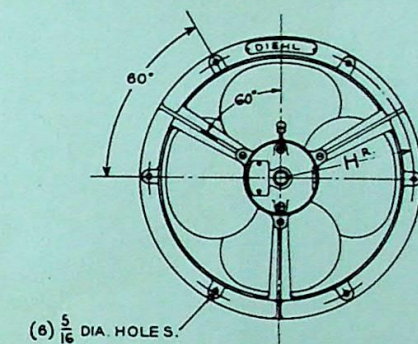
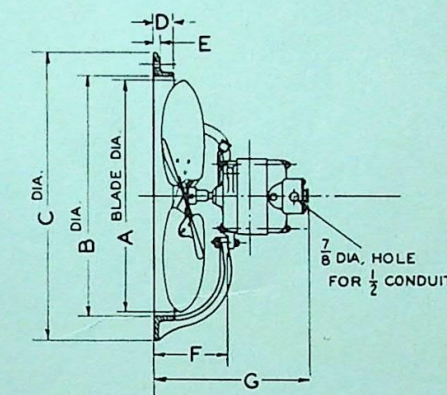
Dia. of Blade	Volts	Approx. R.P.M.	Approx. C.F.M.	*Approximate C.F.M.				H.P. Output	Approx. Ship. Wt. (lbs.)	Catalog No.	
				0" S.P.	1/10" S.P.	1/8" S.P.	1/5" S.P.			Fans Only	Speed Regulator
10"	115	1630	1100	650	550	510	410	1/40	28	10EQD16	3292-2
12"	115	1525	1330	945	760	725	620	1/35	31	12EQD16	3292-2
16"	115	1050	1540	1150	1000	950	750	1/30	44	16EQD16	3292-2

▲ Based on tests by NEMA Anemometer Method (Free Air).

* Based on ASHVAE Code tests.

PROTECTIVE WIRE GUARD: Available for these fans. See Page 28.

SHUTTERS AND PENTHOUSES: For complete details see Pages 28 and 29.

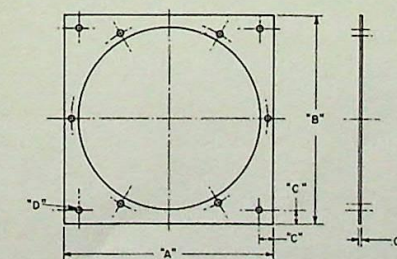


APPROXIMATE DIMENSIONS (Inches)

A Blade Diameter	B	C	D	E	F	G	H
10	10 $\frac{1}{8}$	13 $\frac{1}{4}$	$\frac{7}{8}$	$\frac{1}{2}$	4 $\frac{3}{8}$	9 $\frac{1}{2}$	6 $\frac{1}{8}$
12	12 $\frac{7}{8}$	15 $\frac{1}{4}$	$\frac{7}{8}$	$\frac{1}{2}$	4 $\frac{3}{8}$	9 $\frac{3}{8}$	7 $\frac{1}{8}$
16	16 $\frac{3}{4}$	19 $\frac{3}{4}$	1 $\frac{1}{4}$	$\frac{3}{8}$	5 $\frac{1}{8}$	10 $\frac{1}{4}$	9 $\frac{1}{4}$

Accessory

Steel Adapter Mounting Plate

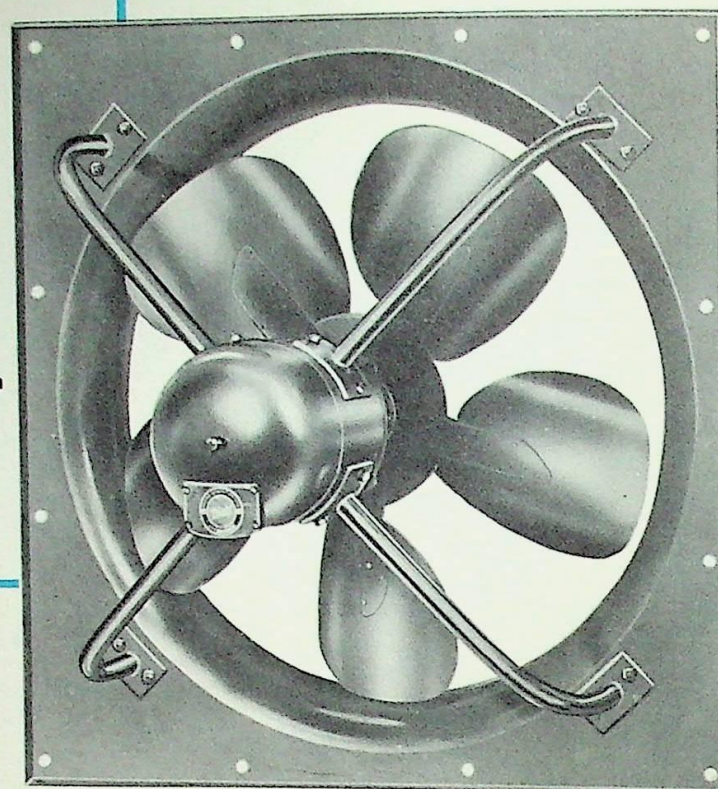


FAN CAT. NO.	A	B	C	D
10EQD16	13 $\frac{1}{2}$	13 $\frac{1}{2}$	1	5/16
12EQD16	15 $\frac{1}{2}$	15 $\frac{1}{2}$	1	5/16
16EQD16	20	20	1	5/16

Low Pressure Direct Drive Exhaust Fans

16 to 36 inch

For Heavy Duty
General Ventilation—
Static Pressures up to 1/4 inch



These sturdily built, steel-panel mounted exhaust fans have the required design and construction features for the effective ventilation of industrial plants, restaurants, kitchens, garages and similar installations requiring heavy duty equipment for continuous operation over extended periods. May be used with ducts not exceeding 10 feet in length.

- Easy to install, clean and maintain.
- Motors ruggedly built for fan duty; totally-enclosed dust-proof, and equipped front and rear with pre-lubricated shielded ball bearings.
- Sturdy broad-wing blades, efficiently deliver large air volume. Accurately balanced to minimize vibration.
- Steel flanged-edge mounting panel with welded tubular steel supporting arms provide maximum strength and rigidity. Internally

grally formed ventura opening assures uniform air velocity distribution and reduced air turbulence.

- Fan can be mounted with shaft horizontal or vertical, blade above motor, upward discharge. For downward discharge, refer to the factory.
- Fan assembly detachable from panel so it can be installed on panel, if desired, after other construction work is completed.

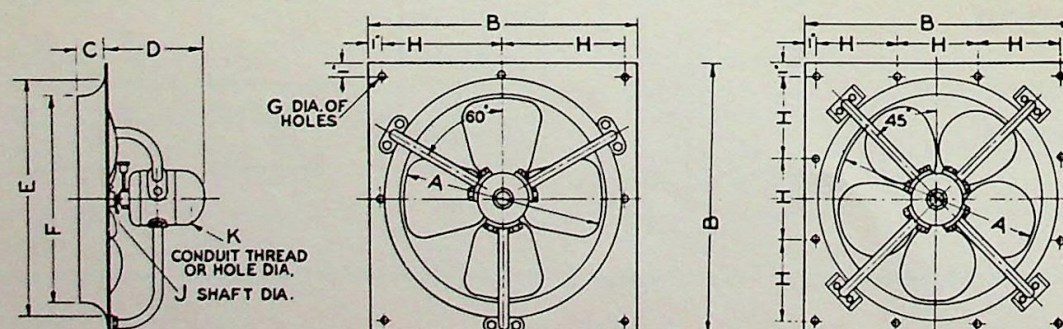


FIG. 1

FIG. 2

PATENT OFFICE

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DIVISIONS 81 & 82

ALTERNATING CURRENT—60. CYCLES

Dia. of Blade	H.P. of Motor	Volts	No. of Blades	Approx. R.P.M. at 0" S.P.	* Approximate C.F.M.				Panel Size (Inches) Square	Approx. Ship. Wt. (Lbs.)	Catalog Number
					0" S.P.	1/10" S.P.	1/8" S.P.	1/4" S.P.			
SINGLE PHASE (SINGLE SPEED)											
16"	1/20	115	4	Δ1050	1625	1450	1400	1020	20 1/32	30	16FPD16
18"	1/8	115/230	4	1100 ▲800	2740 1950	2520 1600	2450 1450	1880 1120	26	75	A18FPD16
24"	1/5		4	800 ▲500	4300 2730	3860 1500	3660 1425	2400 490	32	105	A24FPD16
30"	5/8		5	800 ▲500	7250 4500	6700 3300	6500 2950	5720 1950	38	175	A30FPD16
36"	3/4		5	650 ▲500	10100 7640	9200 6430	8900 6120	7500 4360	44	250	A36FPD16
THREE PHASE (SINGLE SPEED)											
18"	1/8	208- 220/440	4	1100	2740	2520	2450	1880	26	75	18EPD836
24"	1/5		4	800	4300	3860	3660	2400	32	105	24EPD836
30"	5/8		5	825	7450	6900	6700	5900	38	175	30EPD836
36"	3/4		5	670	10400	9500	9200	7700	44	250	36EPD836

* Based on ASHVAE Code tests.

Δ Speed Regulator No. 3292-2 for multi-speed operation is available.

▲ These single speed fans can be operated at two speeds on 115 volt circuits only, when equipped with Switch No. 820875. 230 volt fans are available with single speed only.

SHUTTERS AND PENTHOUSES: For complete details see Pages 28 and 29.

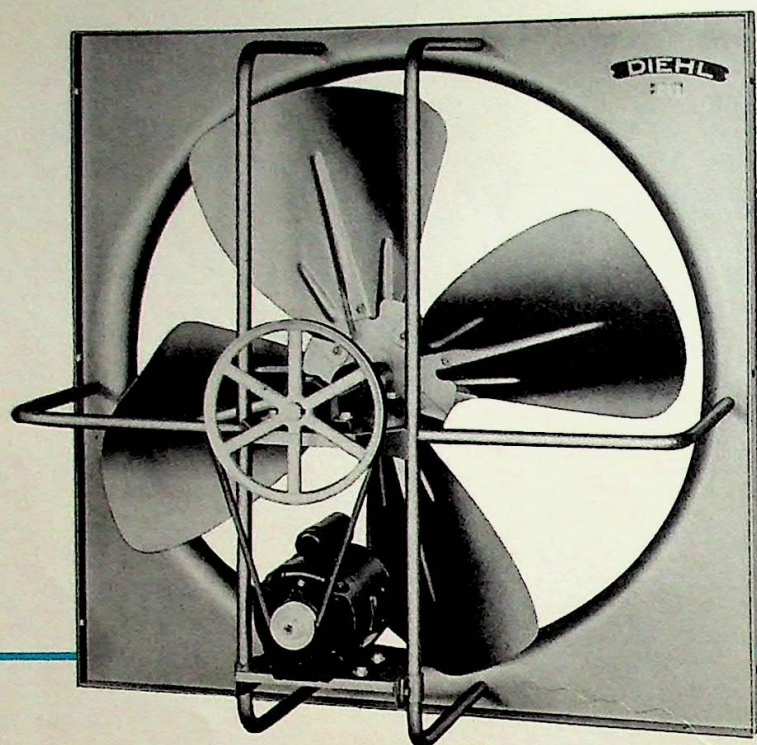
PROTECTIVE WIRE GUARD: Available for these fans. See Page 28.

APPROXIMATE DIMENSIONS (INCHES)

See Fig.	Blade Dia.	MOUNTING DIMENSIONS					C	D		F	J	K
		B	E	G	H	No. Holes		1-Phase	3-Phase			
1	16	20-19/32	19 1/4	9/32	18-19/32	4	2-7/16	9-11/16	—	16-1/2	3/8	7/8 Dia. Hole
1	18	26	21 5/8	7/16	12	7	2-11/16	14-3/8	10-9/16	18-5/8	1/2	1/2-14 N.P.T.
2	24	32	28 5/8	7/16	10	12	3-9/16	15-5/16	11-9/16	24-11/16	5/8	1/2-14 N.P.T.
2	30	38	35 5/8	17/32	12	12	3-3/4	18-11/16	14-1/4	30-15/16	3/4	1/2-14 N.P.T.
2	36	44	41 5/8	17/32	14	12	3-15/16	20-1/2	20-1/2	36-15/16	1	1-1/16 Dia. Hole

⚡ (See NOTE—Fig. 2 on opposite page)

NOTE: 24" fan has 4 blades & 3 arms as shown on fig. 1



Low Pressure Belt Drive Exhaust Fans

24 to 48 inch

For Quiet, Large Volume General Ventilation —
Static Pressures up to 1/4 inch

Recommended for general purpose ventilation in hospitals, schools, laboratories, offices and industrial plants where large volume air delivery against low static pressures with maximum quietness of operation is desirable.

- Easy to install and maintain.
- Totally-enclosed, dust-proof pre-lubricated shielded ball bearing motors, designed especially for fan duty.
- Sturdy broad-wing blades quietly and efficiently deliver large air volume. Accurately balanced for smooth vibration-free operation.
- Steel flanged-edge mounting panel with welded tubular steel supporting arms assure

maximum strength and rigidity. Integrally formed ventura opening assures uniform air velocity distribution and reduced air turbulence.

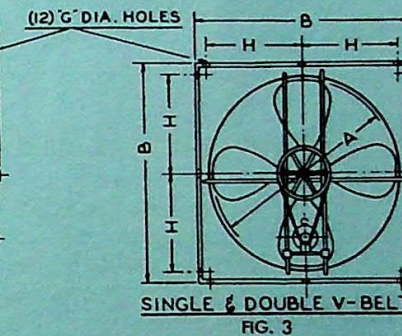
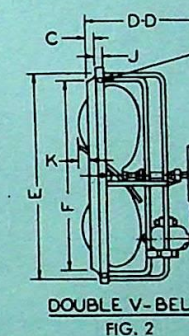
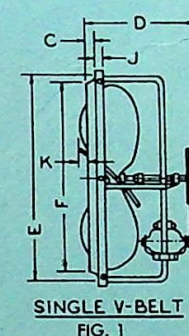
- Motors 3/4 H.P. and larger provided with double supports and double V-belt drives.
- Adjustable motor platform.
- Heavy duty pillow block ball bearings on propeller shaft, rubber mounted to minimize vibration.

ALTERNATING CURRENT—60 CYCLES

Dia. of Blade	Motor H.P.	Volts	Approx. R.P.M.	*Approximate C.F.M.					Panel Size	Approx. Ship. Wt. (Lbs.)	Catalog Number
				0" S.P.	1/10" S.P.	1/8" S.P.	1/4" S.P.	1/2" S.P.			
SINGLE PHASE											
24"	1/2	115/230	675	5870	5200	5000	3960	3460	30" x 30"	130	D24B67
24"	1/2	115/230	750	6540	5780	5580	4400	3850	30" x 30"	135	D24B75
30"	1/2	115/230	470	7550	6080	5500	4700	—	36" x 36"	150	D30B47
30"	1/2	115/230	545	8730	7740	7150	6000	5600	36" x 36"	155	D30B54
36"	1/2	115/230	400	11450	9700	9100	6450	—	42" x 42"	170	D36B40
36"	3/4	115/230	485	13900	11800	11250	9000	—	42" x 42"	175	D36B48
42"	3/4	115/230	400	16600	14150	13650	—	—	48" x 48"	200	D42B40
48"	3/4	115/230	310	19600	16800	15500	—	—	54" x 54"	230	D48B31
THREE PHASE											
24"	1/2	208-220	700	6100	5400	5200	4100	3600	30" x 30"	115	D24BP70
24"	1/2	220/440	750	6540	5780	5580	4400	3850	30" x 30"	120	D24BP75
30"	1/2	208-220	485	7780	6260	5650	4850	4550	36" x 36"	135	D30BP48
30"	1/2	220/440	555	8880	7560	7250	6100	5700	36" x 36"	150	D30BP55
36"	1/2	220/440	405	11560	9800	9200	6500	5000	42" x 42"	185	D36BP40
36"	3/4	220/440	485	13900	11800	11250	9000	7000	42" x 42"	240	E36BP48
42"	1	220/440	400	16600	14150	13650	8800	7800	48" x 48"	270	E42BP40
48"	1	220/440	310	19600	16800	15500	9450	7850	54" x 54"	290	E48BP31
48"	1 1/4	220/440	330	20800	17900	16500	10000	8350	54" x 54"	315	D48BP33

* Based on ASHVAE Code tests.

SHUTTERS AND PENTHOUSES: For complete details see Pages 28 and 29.



APPROXIMATE DIMENSIONS (Inches)

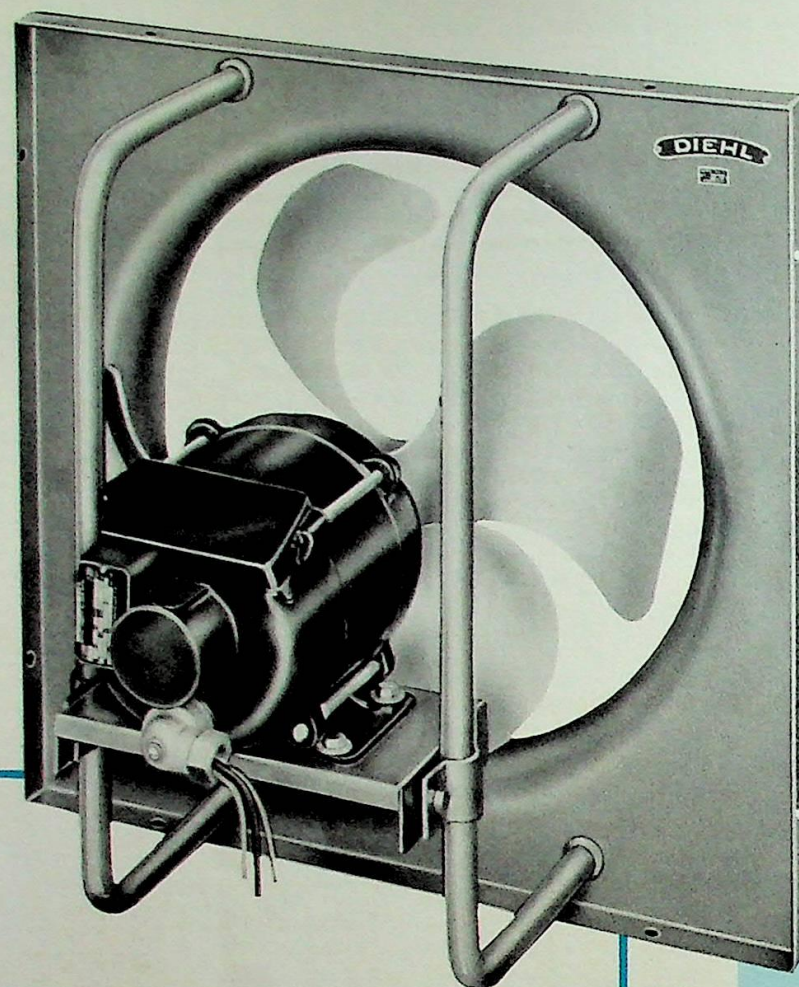
SINGLE PHASE

Cat. No.	See Figure	▲ A Blade Dia.	▲ B	C	D	D-D	E	F	G	▲ H	J	K
D24B67	1	24	30	2 7/8	17 1/2	—	28 1/2	24 3/8	7/16	11 1/8	1 1/8	2 1/2
D24B75	1	24	30	2 7/8	17 1/2	—	28 1/2	24 3/8	7/16	11 1/8	1 1/8	2 1/2
D30B47	1	30	36	2 7/8	18 1/2	—	34 1/2	30 3/8	7/16	14 1/8	1 1/8	2 3/4
D30B54	1	30	36	2 7/8	18 1/2	—	34 1/2	30 3/8	7/16	14 1/8	1 1/8	2 3/4
D36B40	1	36	42	2 7/8	19 1/2	—	40 1/2	36 3/8	7/16	17 1/8	1 1/8	3 3/4
D36B48	2	36	42	2 7/8	—	25	40 1/2	36 3/8	7/16	17 1/8	1 1/8	3 3/4
D42B40	2	42	48	2 7/8	—	25 1/2	46 1/2	42 3/8	7/16	20 1/8	1 1/8	4 1/4
D48B31	2	48	54	2 7/8	—	25 1/2	52 1/2	48 3/8	7/16	23 1/8	1 1/8	4 1/2

THREE PHASE

D24BP70	1	24	30	2 7/8	17 1/2	—	28 1/2	24 3/8	7/16	11 1/8	1 1/8	2 1/2
D24BP75	1	24	30	2 7/8	17 1/2	—	28 1/2	24 3/8	7/16	11 1/8	1 1/8	2 1/2
D30BP48	1	30	36	2 7/8	18 1/2	—	34 1/2	30 3/8	7/16	14 1/8	1 1/8	2 3/4
D30BP55	1	30	36	2 7/8	18 1/2	—	34 1/2	30 3/8	7/16	14 1/8	1 1/8	2 3/4
D36BP40	1	36	42	2 7/8	20 1/8	—	40 1/2	36 3/8	7/16	17 1/8	1 1/8	3 3/4
E36BP48	2	36	42	2 7/8	—	24	40 1/2	36 3/8	7/16	17 1/8	1 1/8	3 3/4
E42BP40	2	42	48	2 7/8	—	25	46 1/2	42 3/8	7/16	20 1/8	1 1/8	4 1/4
E48BP31	2	48	54	2 7/8	—	25 1/2	52 1/2	48 3/8	7/16	23 1/8	1 1/8	4 1/2
D48BP33	2	48	54	2 7/8	—	25 1/2	52 1/2	48 3/8	7/16	23 1/8	1 1/8	4 1/2

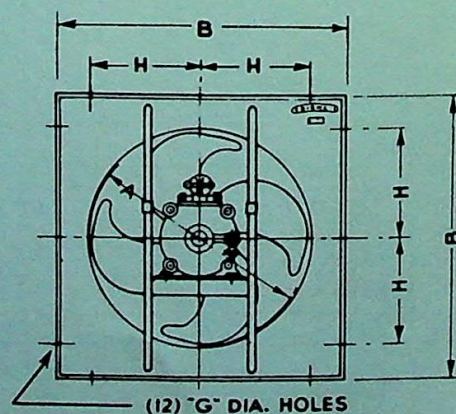
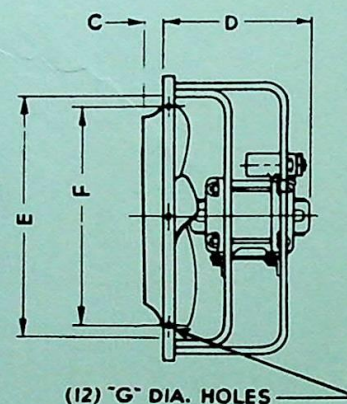
▲ For Dimensions See Fig. 3



**Low Pressure,
Direct Drive Vapor
Explosion-Proof
Exhaust Fans**

16 to 24 inch

For Hazardous Location Applications



Recommended for oil refineries and warehouses, plants engaged in alcohol distilling, paint and varnish manufacturing, chemicals, etc. and many applications where explosive vapor is present. NOTE: Regulatory authorities do not permit installation of these fans in spray booth ducts where motor is in direct line of spray.

- Easy to install and maintain.
- Ruggedly-built, totally-enclosed, explosion-proof pre-lubricated shielded ball bearing motors.
- Non-abrasive cast aluminum blades.
- Steel flanged-edge mounting panel with welded tubular steel supporting arms. Rigid

and strong. Integrally formed ventura opening assures uniform air velocity distribution and reduced air turbulence.

• Motors carry *Approved Label of Underwriters' Laboratories (Class 1, Group D)* and meet the requirements of Safety and Labor Departments in many states. Use of these fans should be restricted accordingly.

ALTERNATING CURRENT—60 CYCLES

SINGLE PHASE

Dia. of Blade	MOTOR			*APPROXIMATE C.F.M.			Approx. Ship. Wt. (Lbs.)	Catalog Number
	H.P.	Volts	Approx. R.P.M.	0" S.P.	1/8" S.P.	1/4" S.P.		
16"	1/4	115	1725	2950	2200	1900	60	16EXG16
16"	1/4	230	1725	2950	2200	1900	60	16EXG26
18"	1/3	115/230	1725	3700	3400	2900	65	18EXG16
24"	1/2	115/230	1140	6200	4780	3550	145	24EXG16

THREE PHASE

18"	1/3	♦ 220	1725	3700	3400	2900	65	18EBX836
24"	1/2	♦ 220	1140	6200	4780	3550	145	24EBX836

* Based on ASHVAE Code tests.

♦ Can also be supplied for 440 volts, 60 cycles. Catalog numbers on request.

SHUTTERS AND PENTHOUSES: For complete details see Pages 28 and 29.

APPROXIMATE DIMENSIONS (Inches)

SINGLE PHASE

CAT. No.	A BLADE DIA.	B	C	D	E	F	G	H
16EXG16	16"	22	2 7/8	13 1/2	19	16 1/4	7/16	7 1/8
16EXG26	16"	22	2 7/8	13 1/2	19	16 1/4	7/16	7 1/8
18EXG16	18"	24	2 7/8	14 1/2	21	18 1/4	7/16	8 1/8
24EXG16	24"	30	2 7/8	15	27	24 1/4	7/16	11 1/8

THREE PHASE

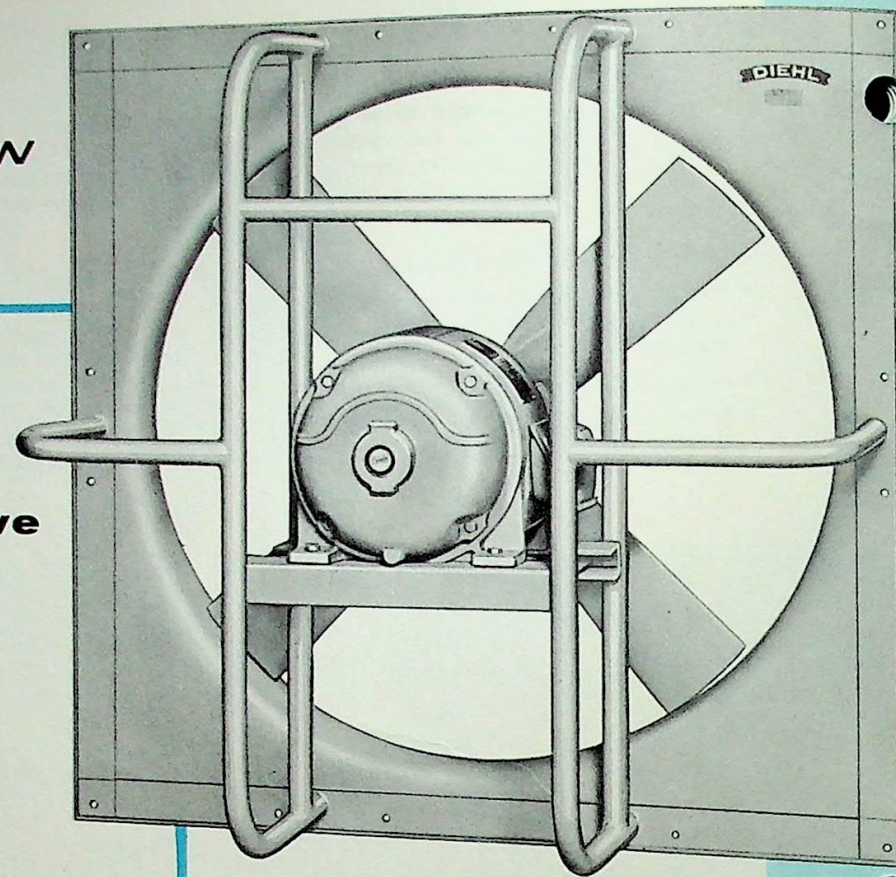
18EBX836	18"	24	2 7/8	15	21	18 1/4	7/16	8 1/8
24EBX836	24"	30	2 7/8	15	27	24 1/4	7/16	11 1/8

NEW

High Pressure Heavy Duty Direct Drive Exhaust Fans

18 to 48 inch

For Heavy Duty
General Ventilation—
Static Pressures up to 1 inch



These high velocity heavy duty fans are designed for ventilating areas where dirt, dust, smoke, steam, fumes, etc. are excessive and for duct, mine and exhaust installations where static pressures in excess of 1/4 inch are involved.

- Easy to install and maintain.
- Powerful and rugged totally enclosed, dust-proof motors equipped with pre-lubricated shielded ball bearings.
- Blades are of cast aluminum construction and designed for high efficiency and durability.
- Heavy steel panel with welded steel tubular supporting arms, provides maximum strength and rigidity. Integrally formed ventura opening assures uniform air velocity distribution and reduced air turbulence.
- Available with 3-phase explosion-proof motors. Refer to the factory.

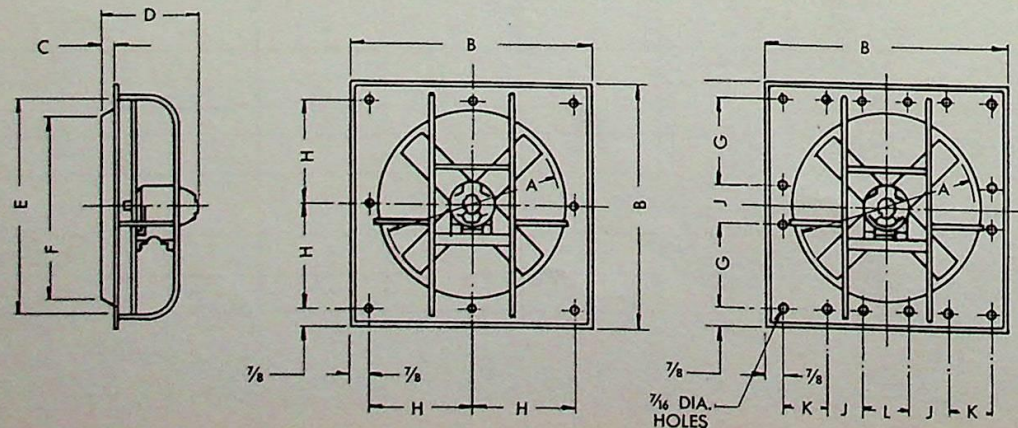


FIG. 1

FIG. 2

ALTERNATING CURRENT—60 CYCLES

Dia. of Blade	H.P.	No. of Blades	Approx. R.P.M.	Panel Size	Approx. Ship. Wt. (lbs.)	Catalog No.	
						1-Phase 115/230 Volts	3-Phase 220/440 Volts
18"	1/2	4	1750	24"x24"	75	18V76-1	18V836-1
24"	3/4	3	1750	32"x32"	135	24V76-1	24V836-1
24"	1	4	1750	32"x32"	140	24V76-2	24V836-2
30"	1	5	1150	38"x38"	140	30V76-1	30V836-1
30"	2	2	1750	38"x38"	190	30V76-2	30V836-2
30"	3	4	1750	38"x38"	220	30V76-3	30V836-3
36"	1 1/2	4	1150	44"x44"	315	—	36V836-3
36"	3	2	1750	44"x44"	320	36V76-1	36V836-1
36"	5	4	1750	44"x44"	330	—	36V836-2
42"	1	2	850	50"x50"	350	—	42V836-3
42"	3	3	1150	50"x50"	360	—	42V836-1
42"	5	5	1150	50"x50"	430	—	42V836-2
48"	3	4	850	56"x56"	490	—	48V836-3
48"	5	3	1150	56"x56"	495	—	48V836-1
48"	7 1/2	4	1150	56"x56"	500	—	48V836-2

*APPROXIMATE C.F.M.

Dia. of Blade	0" S.P.	1/8" S.P.	1/4" S.P.	3/8" S.P.	1/2" S.P.	3/4" S.P.	1" S.P.
18"	4250	3900	3500	2850	2000	950	400
24"	6760	6260	5600	5000	4260	2200	—
24"	7800	7200	6400	5800	5050	3600	1600
30"	11600	10300	9000	8000	7000	4500	2000
30"	13600	12700	11900	11000	10100	7400	5300
30"	15850	15100	14350	13600	12900	11300	9600
36"	14500	13000	11500	10100	8600	5300	2400
36"	20300	18700	17700	16300	15000	12100	9100
36"	22000	20900	20000	18900	18000	16200	14000
42"	16800	14600	12500	8600	3500	—	—
42"	23900	22900	21200	19600	17600	13100	9300
42"	28600	27800	26900	25800	24600	22000	18000
48"	27900	26400	24800	22100	19900	13300	6100
48"	34000	32000	30200	27800	24200	20800	14000
48"	37500	36400	35400	34100	32800	29500	25400

* Based on ASHVAE Code tests. For air deliveries in excess of 1" S.P. write factory.

▲ 3-Phase, 550 Volt Motors also available.

EXPLOSION-PROOF FANS—The above fans are available with 3-phase explosion-proof motors. Information on request.

SHUTTERS: Heavy Duty Type Shutters for these fans are available. See Page 28.

PENTHOUSES: See Page 29.

APPROXIMATE DIMENSIONS (Inches)

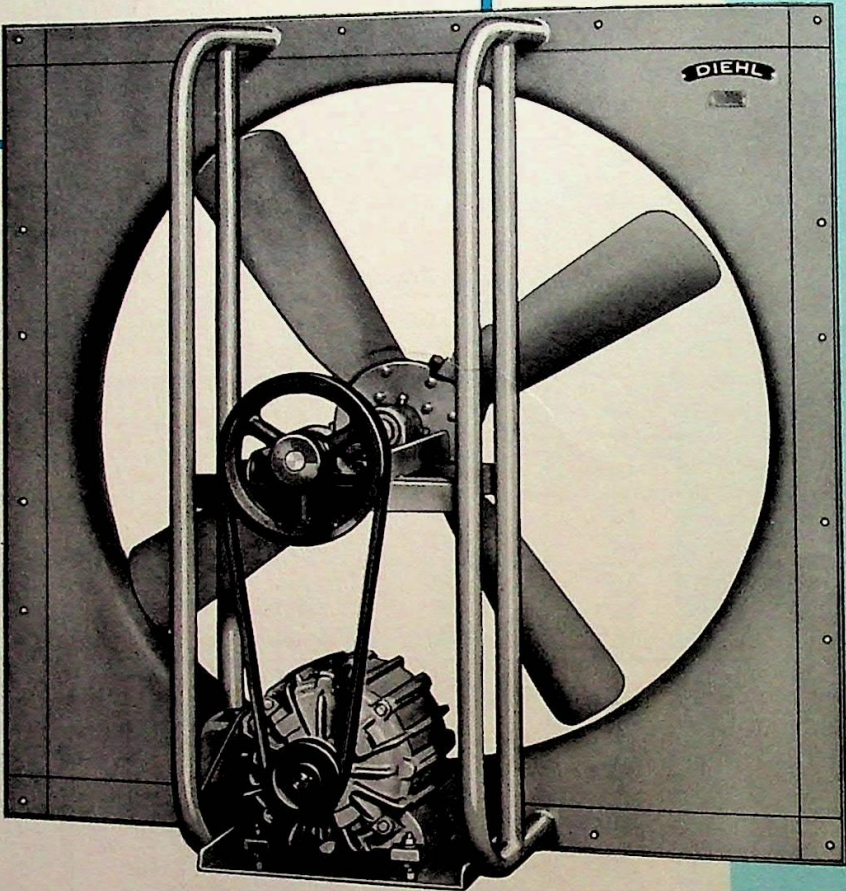
See Fig.	Blade Dia. A	B	C	D	E	F	G	H	J	K	L
1	18	26	3	10	22 1/2	18 5/8	—	12 1/8	—	—	—
1	24	32	3	11	28 1/2	24 5/8	—	15 1/8	—	—	—
2	30	38	3	12 1/2	34 1/2	30 5/8	15 1/8	—	6	8 1/8	8
2	36	44	3	14	40 1/2	36 5/8	18 1/8	—	6	10 1/2	9 1/4
2	42	50	3	17 1/2	46 1/2	42 5/8	21 1/8	—	6	12 1/2	11 1/4
2	48	56	3	23 1/2	52 1/2	48 7/8	24 1/8	—	6	15 1/2	11 1/4

High Pressure Heavy Duty Belt Drive
Exhaust Fans

24 to 48 inch

For Economical General Ventilation
Static Pressures Up to 1 Inch

NEW



For low cost and efficient ventilation of steel mills, foundries, industrial plants, etc.
requiring large volume, heavy-duty air movement under high static pressures.

- Easy to install and maintain.
- Totally-enclosed, dust-proof, shielded pre-lubricated ball bearing motors, designed especially for fan duty.
- Cast aluminum blades, accurately balanced, effectively move a large volume of air against high static pressures.
- Heavy gauge square steel panel with welded steel tubular supporting arms for maximum rigidity and strength. Integrally formed ventura opening assures uniform air velocity distribution and reduced air turbulence.
- Heavy duty pillow block ball bearings on propeller shaft, rubber mounted to minimize vibration.
- Adjustable motor platform.

ALTERNATING CURRENT — 60 CYCLES

Dia. of Blade	H.P.	Approx. R.P.M.	Approximate C.F.M.							Panel Size	Approx. Ship. Wt. (Lbs.)	Catalog No.	
			0" S.P.	1/8" S.P.	1/4" S.P.	3/8" S.P.	1/2" S.P.	3/4" S.P.	1" S.P.			1-Phase 115/230 Volts	3-Phase 220/440 Volts
24"	3/4	850	7250	5900	2500	1500	—	—	—	32"x32"	140	24E-1	24EP-1
24"	1	1010	9450	7900	5150	3220	1970	960	—		145	24E-2	24EP-2
30"	3/4	920	9850	8900	8200	7050	5430	2200	—	38"x38"	165	30E-1	30EP-1
30"	1	1010	10950	9900	9200	8050	7000	3150	1550		170	30E-2	30EP-2
30"	1 1/2	1205	12200	11450	10400	9975	7600	4400	2325		175	—	30EP-3
30"	2	1350	13400	12450	11750	10700	8025	5470	2670		190	—	30EP-4
36"	1	875	15200	12750	10800	9000	7100	3100	—	44"x44"	185	—	36EP-1
36"	1 1/2	945	17100	14700	13850	12700	11250	6450	2300		195	—	36EP-2
36"	2	1010	18100	15300	14500	12950	12100	7100	2500		210	—	36EP-3
42"	1	690	18850	16000	15200	13900	12800	7800	—	50"x50"	210	—	42EP-1
42"	1 1/2	775	21100	18100	16900	15800	14500	8300	—		215	—	42EP-2
42"	2	850	23250	18950	17650	16700	15500	10150	—		250	—	42EP-3
42"	3	1010	25800	23250	22000	20300	18800	12300	3100		300	—	42EP-4
48"	1 1/2	500	22500	18200	15250	10000	—	—	—	56"x56"	250	—	48EP-1
48"	2	605	26800	21850	19250	17950	13550	12050	3550		270	—	48EP-2
48"	3	690	28800	24900	22800	20900	19350	14900	7400		325	—	48EP-3
48"	5	850	33500	30200	28500	27100	24900	19000	10100		350	—	48EP-4

SHUTTERS: Heavy Duty Type Shutters for these fans are available. See Page 28.
PENTHOUSES: See Page 29.

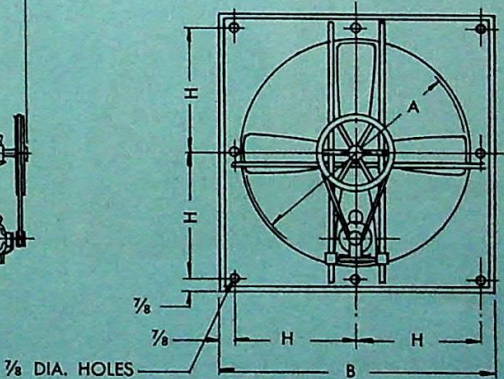
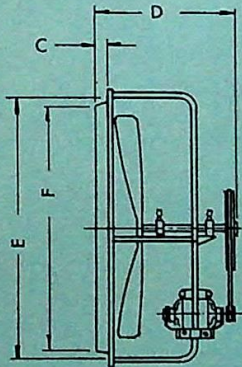


FIG. 1

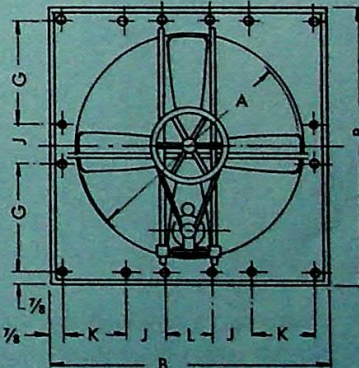


FIG. 2

APPROXIMATE DIMENSIONS (Inches)
SINGLE AND THREE PHASE (All Catalog Nos.)

See Fig.	Blade Dia. A	B	C	D	E	F	G	H	J	K	L
1	24	32	3	13	28 1/2	24 3/4	—	15 1/8	—	—	—
2	30	38	3	16 1/2	34 1/2	30 3/4	15 1/8	—	6	8 3/4	8
2	36	44	3	17	40 1/2	36 3/4	18 3/8	—	6	10 1/2	9 1/4
2	42	50	3	20 1/2	46 1/2	42 3/4	21 1/8	—	6	12 1/2	11 1/4
2	48	56	3	21 1/2	52 1/2	48 3/4	24 3/8	—	6	15 1/2	11 1/4

Oscillating Air Circulator

24 inch—2 Speeds

Fast, Quiet, Wide-Area Air Circulation

This superbly built DIEHL Oscillating Air Circulator has found wide acceptance because of its overall cooling and air circulating efficiency, quietness of operation and attractiveness in appearance. It is ideally suited for wide area circulation and cooling in places where low decibel ratings are important, such as airports, waiting rooms, display rooms, stores, public buildings and offices.

- Close-meshed 2-piece chrome super-safety guards at no extra cost. Provide easy access to propeller for cleaning.
- Advanced design capacitor-type two speed shielded ball bearing motor, resilient mounted for maximum quietness and minimum vibration.
- Polished aluminum deep-pitch blades, designed to move large volume of air smoothly and quietly.
- Oscillation adjustable to 0, 45 and 90 degrees.
- All models adjustable for up or down air stream.
- Floor models adjustable in height from 5¼ to 8 feet—equipped with sturdy non-tipping base.
- Pull switch control.
- Attractively finished in chrome and black, easy to clean.
- Heavy non-tipping base for extra stability and safety.

ALTERNATING CURRENT — 2 SPEEDS 110-120 VOLTS — 60 CYCLES

Model	Blade Dia.	Motor HP	Approx. RPM	■ Approx. CFM	Catalog Number
Floor	24"	1/6	1100/800	5000	A87BN
Counter	24"	1/6	1100/800	5000	A87LN
Wall	24"	1/6	1100/800	5000	A87WN

■ Based on NEMA standards for air circulators—measured at 2 ft.



Non-Oscillating Air Circulators

20, 24 and 30 inch—2 Speeds

For Economical Directional Air Circulation

DIEHL Non-Oscillating Air Circulators are instantly adjustable to direct the air stream to any one of 360 degrees in a vertical plane. They deliver large volume air movement quietly and efficiently and are attractive in appearance and ideal for use in display rooms, department stores, offices, theatre foyers, etc.

- Close-meshed chrome super-safety guard* at no extra cost. Two-piece construction, easy to remove for cleaning of blades.
- Heavy non-tipping base for maximum safety in busy areas.
- Adjustable heights of floor models:
 - 20 inch from 4 to 5½ feet
 - 24 inch from 5½ to 8½ feet
 - 30 inch from 5¾ to 8¾ feet
 heights from fan center
- Deep-pitch, wide-design blades move maximum air per unit of power.
- Powerful totally enclosed, two-speed motor specially designed for air circulating duty. Lifetime lubricated.
- Attractively finished in chrome and black, easy to clean.
- Pull switch control.

ALTERNATING CURRENT — 2 SPEEDS 110-120 VOLTS — 60 CYCLES

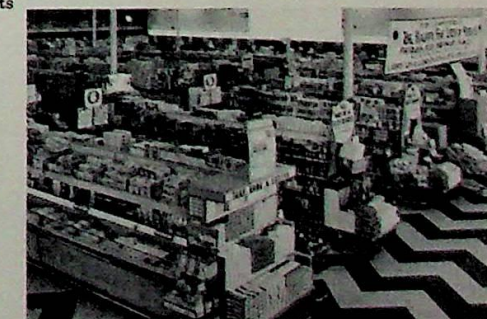
Model	Blade Dia.	Motor HP	Approx. RPM	■ Approx. CFM	Catalog Number
Floor	20"	1/15	1000/850	4000	20HF16
Floor	24"	1/5	1050/850	5000	24HF16
Counter	24"	1/5	1050/850	5000	24HC16
Wall	24"	1/5	1050/850	5000	24HW16
Ceiling	24"	1/5	1050/850	5000	24HS16
Floor	30"	1/3	1050/850	7000	30HF16
Counter	30"	1/3	1050/850	7000	30HC16
Wall	30"	1/3	1050/850	7000	30HW16
Ceiling	30"	1/3	1050/850	7000	30HS16

DIRECT CURRENT — 2 SPEEDS 110-120 VOLTS

Model	Blade Dia.	Motor HP	Approx. RPM	■ Approx. CFM	Catalog Number
Floor	24"	1/6	1100/800	5000	84BN
Counter	24"	1/6	1100/800	5000	84LN
Wall	24"	1/6	1100/800	5000	84WN

■ Based on NEMA standards for air circulators—measured at 2 feet.

*Not furnished with D. C. units

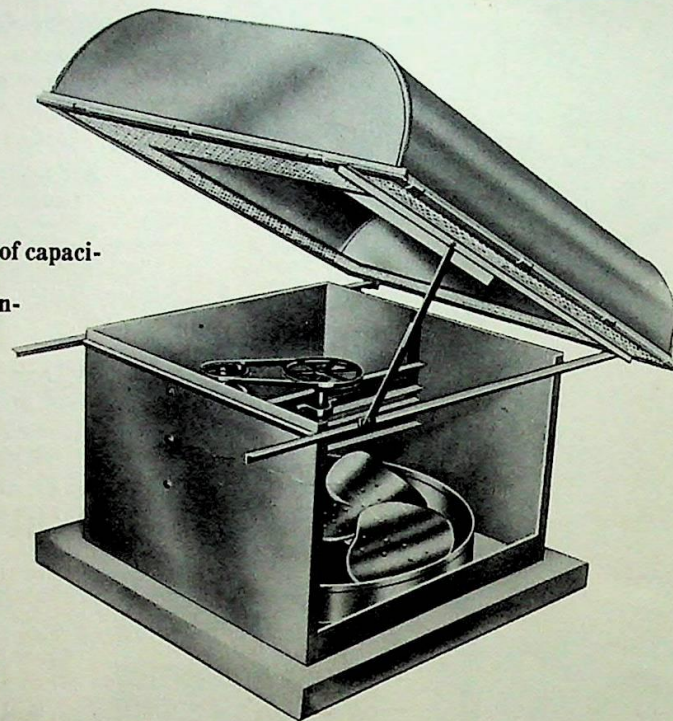


Belt, Direct and Remote Control Drive Power Roof Ventilators

12 to 60 inch

For Large Volume, Space-Saving General Ventilation

DIEHL Power Roof Ventilators are the effective answer to many industrial plant ventilation problems. They exhaust hot, humid, foul air without the sacrifice of valuable wall space and provide positive, large volume air movement against static pressure in a wide range of capacities. They are completely weatherproof, may be installed on all types of buildings which require either periodic or continuous air removal, and present a neat silhouette that blends harmoniously with modern structural lines.

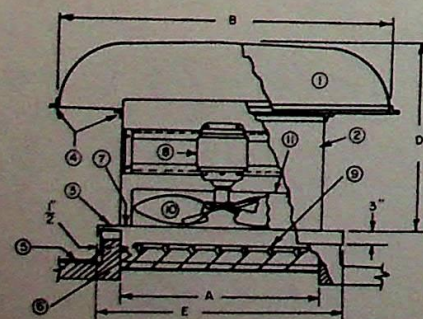


- Unit versatility for different applications is a feature, since DIEHL Power Roof Ventilators can be supplied with V-Belt Drive, Direct Drive or Remote (motor out of the air stream) Drive.
- Regularly furnished with standard open drip-proof pre-lubricated ball bearing motors. Totally enclosed and explosion-proof motors available on request. Units with explosion-proof motors can be supplied with non-ferrous blades and non-sparking belts.
- Fan Blades are cast of special aluminum alloy, carefully balanced for smooth operation.
- Regularly supplied with galvanized steel hoods, fan casings and mounting pedestals, finished in grey, rust-resisting enamel. Can be furnished in copper, aluminum or painted finish—data on request. However, Corkcote, an effective sprayed coating, can be factory applied as a protection against corrosion, condensation or as a sound deadening insulation.

- Underwriter-approved disconnect switches are supplied as an integral part of the units.
- Gravity-operated or motor-operated shutters can be furnished as accessory equipment to seal the roof opening when the fans are not in use.
- Various meshes can be furnished where required which completely screen the openings to keep out birds and insects.

DIRECT DRIVE

Direct driven fan with standard ball bearing motor is illustrated below mounted on single pitch sloped roof. Fan speeds and capacities are generally higher than similarly sized V-belt driven fans. However, any direct driven fan capacity can be obtained by V-belt drive if desired.



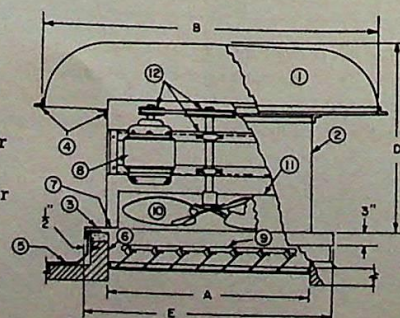
DIRECT DRIVE

LEGEND

- | | |
|---------------------------|--------------------------|
| 1 Removable Blackout Hood | 7 Electric Conduit Space |
| 2 Fan Casing | 8 Ball Bearing Motor |
| 3 Mounting Pedestal | 9 Louver Damper |
| 4 Angle Iron Box Frame | 10 Axial Flow Impeller |
| 5 Flashing (By Others) | 11 Fan Inlet Ring |
| 6 Curb (By Others) | 12 Drive Assembly |

for Dimensions A, B, D and E, see page 19.
'E' dimension can vary

*Louver dampers can be supplied, at extra charge.



BELT DRIVE

RATINGS AND DIMENSIONS

ALTERNATING CURRENT — 60 CYCLES

115/230 Volts, Single Phase or 208-220/440 Volts, Three Phase

Fan Dia. of Blade	Approx. R.P.M.	Motor H.P.	*Approximate C.F.M.			Approx. Ship. Wt. (Lbs.)	† Gauge Galv. Steel	▲ Catalog Number	Dimensional Data (Inches) (See dwg. Page 18)			
			0" S.P.	1/8" S.P.	1/4" S.P.				A	B	D	E
12"	1725	1/8	1400	1250	1000	150	18-24	PA12-B3	15	23	22	23
12"	1140	1/20	925	700		150	18-24	PA12-B13	15	23	22	23
14"	1725	1/8	2150	2000	1820	225	18-24	PA15-B3	18	27	25	26
14"	1140	1/8	1400	1200		225	18-24	PA15-B13	18	27	25	26
16"	1140	1/4	2200	2000	1650	225	18-24	PA15-B4	18	27	25	26
16"	1725	1/2	3100	2920	2740	225	18-24	PA15-B14	18	27	25	26
16"	860	1/8	1500	1110		225	18-24	PA15-B24	18	27	25	26
18"	1725	1/2	4000	3810	3300	290	18-22	PAB20-B3	22	33	30	30
18"	1140	1/4	2720	2400	1900	290	18-22	PAB20-B13	22	33	30	30
18"	860	1/8	2000	1520		290	18-22	PAB20-B23	22	33	30	30
20"	1130	1/2	4400	3900	3100	290	18-22	PAB20-B3	22	33	30	30
20"	700	1/8	2600	1910		290	18-22	PAB20-B13	22	33	30	30
20"	600	1/8	2260	1300		290	18-22	PAB20-B23	22	33	30	30
24"	1725	1/2	5850	5320	4600	375	18-22	PA24-X4	26	39	32	34
24"	1130	1/2	4900	4450	3900	375	18-22	PAB24-B4	26	39	32	34
24"	845	1/2	5100	4300	3200	375	18-22	PAB24-B14	26	39	32	34
24"	845	1/2	4050	3550		375	18-22	PAB24-B34	26	39	32	34
24"	580	1/4	4400	2900		375	18-22	PAB24-B44	26	39	32	34
24"	490	1/8	3860	1920		375	18-22	PAB24-B54	26	39	32	34
30"	1140	1 1/2	9800	8300	6800	470	18-22	PA30-X4	32	48	36	40
30"	400	1/4	5000	3000		470	18-22	PAB30-X4	32	48	36	40
30"	520	1/2	6200	4600	3550	470	18-22	PAB30-X14	32	48	36	40
30"	785	3/4	8000	7150	6050	470	18-22	PAB30-X8	32	48	36	40
30"	630	3/4	7300	5600	4800	470	18-22	PAB30-X24	32	48	36	40
30"	870	1	9000	8400	7600	470	18-22	PAB30-X18	32	48	36	40
36"	1140	3/4	10700	9500	8350	550	18-22	PA36-X4	38	57	40	46
36"	350	1/3	7750	4600		550	18-22	PAB36-X4	38	57	40	46
36"	460	3/4	10100	8100	6050	550	18-22	PAB36-X14	38	57	40	46
36"	520	1	11000	8800	6850	550	18-22	PAB36-X24	38	57	40	46
36"	585	1 1/2	11950	9800	7800	550	18-22	PAB36-X34	38	57	40	46
36"	870	2	14000	12800	11300	550	18-22	PAB36-X8	38	57	40	46
42"	320	1/2	11000	7600	4200	800	18-20	PAB42-X4	44	66	44	52
42"	375	3/4	12000	9100	6300	800	18-20	PAB42-X14	44	66	44	52
42"	510	1 1/2	16000	13500	11000	800	18-20	PAB42-X24	44	66	44	52
42"	860	3	20000	18000	15500	800	18-20	PAB42-X34	44	66	44	52
42"	460	1	13100	9950	7000	800	18-20	PAB42-X44	44	66	44	52
48"	295	1/2	13000	9100	4000	1050	18	PAB48-X4	50	75	48	58
48"	375	1 1/2	17500	15000	11800	1050	18	PAB48-X14	50	75	48	58
48"	480	2	22600	19000	15500	1050	18	PAB48-X24	50	75	48	58
48"	850	3	23500	21200	19000	1050	18	PAB48-X34	50	75	48	58
54"	380	1	20000	14600	8000	1400	16-18	PAB54-X4	56	84	54	64
54"	435	1 1/2	22000	17500	12800	1400	16-18	PAB54-X14	56	84	54	64
54"	495	2	25000	20000	14600	1400	16-18	PAB54-X24	56	84	54	64
60"	375	2	27000	22000	15150	1600	14-18	PAB60-X4	62	93	60	70
60"	425	3	31500	26200	18000	1600	14-18	PAB60-X14	62	93	60	70
60"	660	7 1/2	40000	37000	31500	1600	14-18	PAB60-X24	62	93	60	70

*Based on ASHVAE Code tests. For capacities not listed, contact factory.

▲Prefix "PA" on catalog numbers indicates direct drive

Prefix "PAB" on catalog numbers indicates V-belt drive

†Gauges listed first are for mounting pedestals and fan casings, second gauge is for hood

ORDERING INFORMATION

When ordering, designate Catalog Number and specify voltage, frequency and number of phases desired.

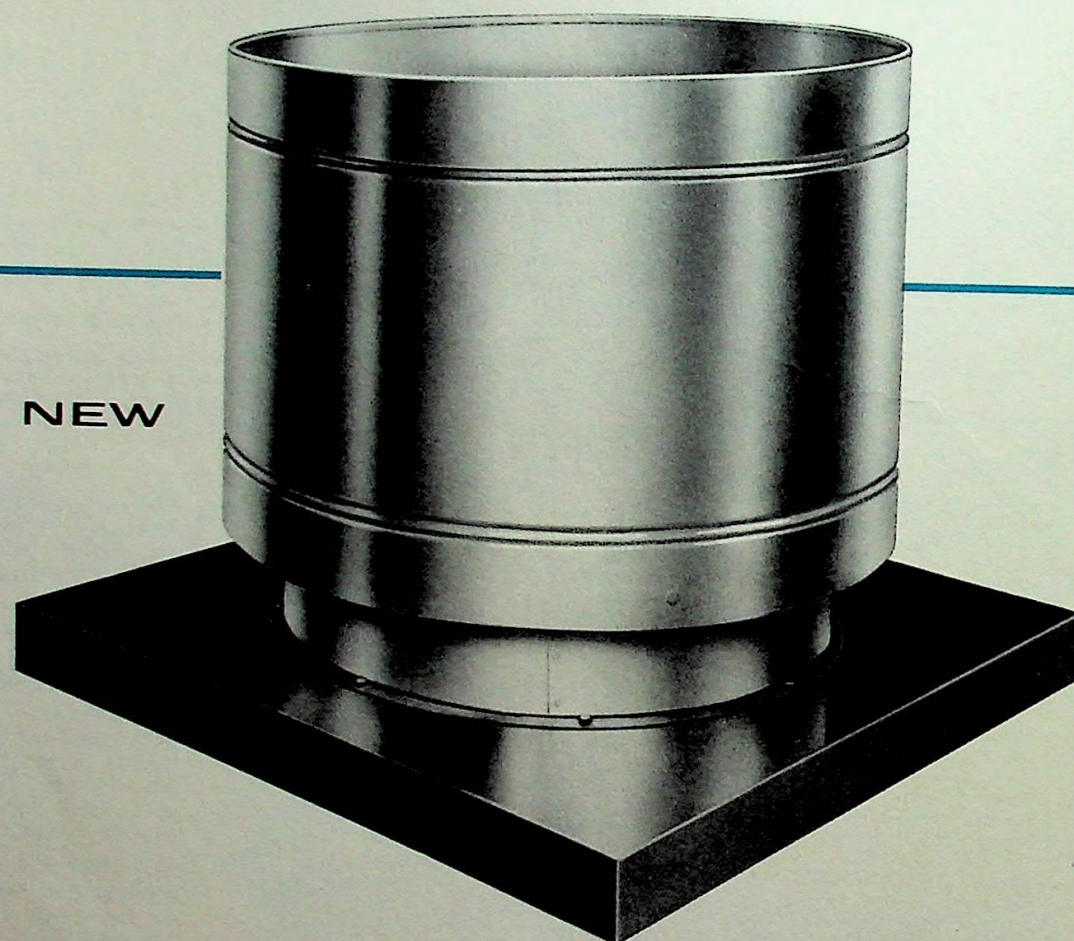
NOTE

- Special combinations of fan blades, motor sizes and speeds are available to meet other capacity requirements.
- High speed fans are intended for industrial use. Low noise level fans should be selected from the lower speeds.
- Low fan speeds are achieved by belting down higher speed motors, in the V-Belt Drive units. This permits the use of standard stock motors at reasonable cost.
- Extra fan versatility can be accomplished by adjusting the fan speeds with variable pitched sheaves, furnished at extra cost.
- Motor mounting plates are provided with slotted track for simple belt adjustment on the standard V-Belt Drive units and with an adjustable swivel for the same purpose on the Remote Drive series.

Heavy Duty, Direct Drive, Power Roof Ventilators

20 to 60 inch

Rugged Units for Heavy Duty Space Saving General Ventilation



NEW

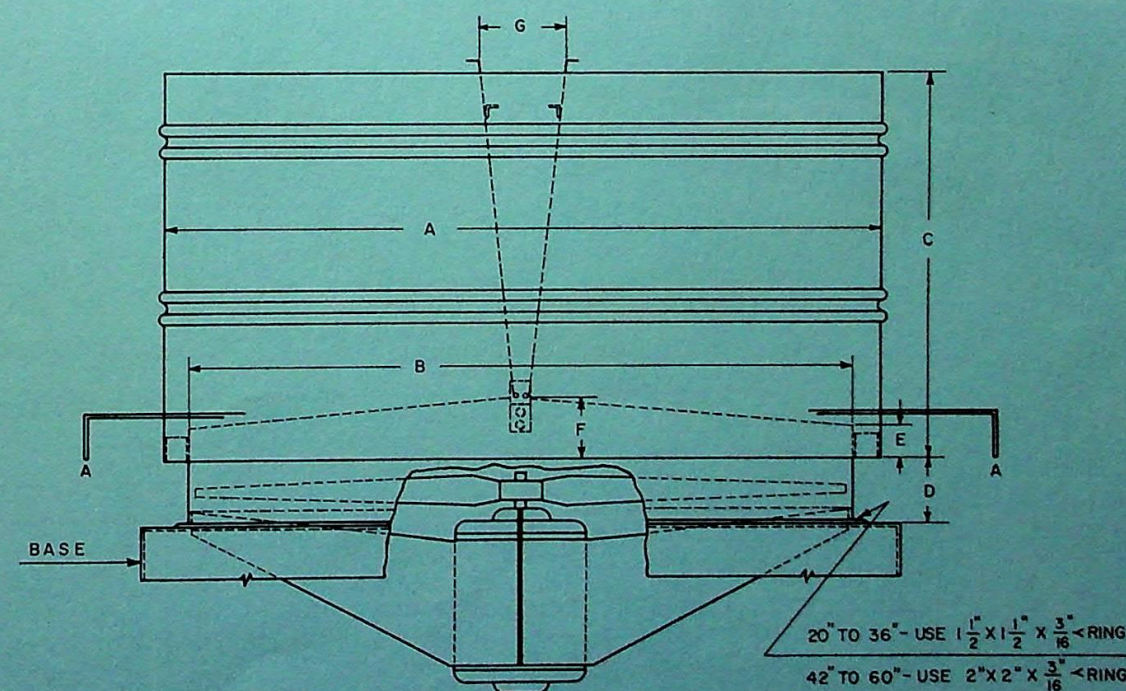
Particularly recommended for installation in foundries and heavy industries when placed over furnaces, pouring floors, die-casting operations and similar locations where heavy concentrations of heat, fumes, moisture, dust, etc. are encountered and the exhausted air must be projected high into the air above the roof. New low silhouette is in keeping with modern building construction.

- Easy to install and maintain.
- Motors are standard general purpose, pre-lubricated shielded ball bearing, totally-enclosed design. (Explosion-proof motors available when required.)
- Heavy duty cast aluminum blades, non-sparking, effectively move large volumes of air.
- Ruggedly constructed, with heavy all welded

- curb steel base and galvanized wind guard and dampers for years of trouble-free service.
- Wind guard beaded for stiffness and to protect dampers from high winds.
- When fan is on, the air blast opens the butterfly dampers. The air-stream prevents entrance of rain, snow, etc. When fan is shut off, the dampers close automatically and form a weather-tight seal. Damper stops are provided for proper opening angle.

ALTERNATING CURRENT — 60 CYCLES

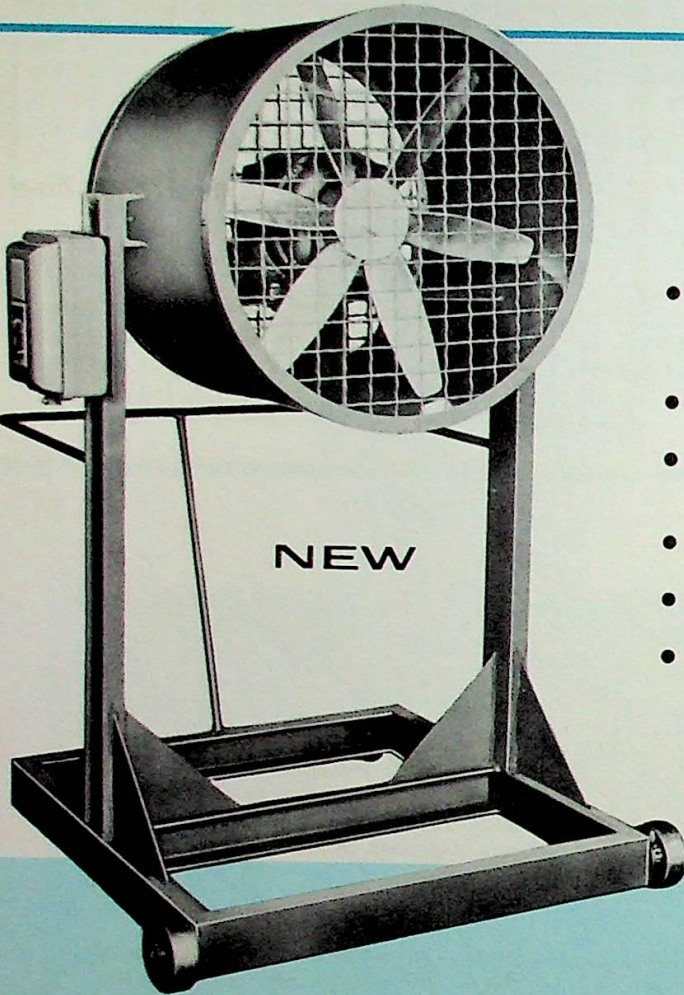
Fan		Motor H.P.	Approx. C.F.M.	Approx. Ship. Wt. (Lbs.)	Catalog Number		Dimensions (Inches)							
Dia. of Blade	Approx. R.P.M.				1-Phase	3-Phase	Base	A	B	C	D	E	F	G
20"	1725	⅓	3050	200	20R-1	20RP-1	30	26	21	14	5	3	4 ¼	4 ½
24"	1725	¼	2870	245	24R-1	24RP-1	34	30	25	16	5	3	4 ½	5 ½
24"	1725	½	5800	260	24R-2	24RP-2	34	30	25	16	5	3	4 ½	5 ½
24"	1725	1	7200	300	24R-3	24RP-3	34	30	25	16	5	3	4 ½	5 ½
24"	1725	3	10100	330	—	24RP-4	34	30	25	16	5	3	4 ½	5 ½
30"	1725	½	6300	320	30R-1	30RP-1	40	36	31	19	5	3	4 ¾	6
30"	1725	1 ½	10450	370	—	30RP-2	40	36	31	19	5	3	4 ¾	6
30"	1725	3	14150	400	—	30RP-3	40	36	31	19	5	3	4 ¾	6
36"	1725	1 ½	12100	500	—	36RP-1	46	42	37	22	6	3	5	7
36"	1725	2	14200	515	—	36RP-2	46	42	37	22	6	3	5	7
36"	1725	3	18650	530	—	36RP-3	46	42	37	22	6	3	5	7
42"	1150	2	18950	535	—	42RP-1	52	48	43	25	6	3	5 ½	8 ¼
42"	1150	5	27500	650	—	42RP-2	52	48	43	25	6	3	5 ½	8 ¼
48"	1150	1	20000	800	—	48RP-1	58	54	49	28	6	3	5 ¾	9 ½
60"	1150	3	30000	900	—	60RP-1	70	66	61	35	6	3	6 ½	11 ½



Heavy Duty Industrial Man Coolers

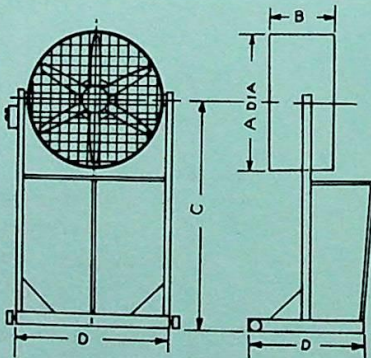
18 to 42 inch

Eliminate Plant "Hot-Spots"—Improve Worker Efficiency



Designed for heavy duty industrial use to direct a high velocity stream of cooling air wherever desired to break up "hot spots" in steel mills, foundries, brick kilns, etc. or to cool overheated machinery and manufactured products.

- Heavy duty general purpose, continuous-duty, totally-enclosed motors, equipped with pre-lubricated ball bearings. (Explosion-proof motors can be supplied when specified.)
- Cast aluminum, non-sparking blades, effectively move large volumes of air.
- Channel iron non-tipping base and supports. Motor base and supports steel plate, welded to protective drum.
- Adjustable drum can be turned to control direction of air discharge.
- Base is mounted on casters and provided with handle for ease in moving the fan.
- Motor and blades protected by welded steel drum with heavy mesh wire guards, front and rear.



ALTERNATING CURRENT — 60 CYCLES

Dia. of Blade	H.P.	No. of Blades	Approx. R.P.M.	Approx. C.F.M. 0" S.P.	Approx. Ship. Wt. (Lbs.)	Catalog Number		Approx. Dimensions (Inches)			
						1-Phase 115/230 Volts	3-Phase 220/440 Volts	A	B	C	D
18"	1/4	4	1725	3450	200	18M-1	18MP-1	18	15	38	24
24"	1/4	2	1725	5200	265	24M-1	24MP-1	24	15	40 1/2	29 1/2
24"	1/2	4	1725	6510	300	24M-2	24MP-2	24	18	40 1/2	29 1/2
24"	3/4	6	1150	7700	325	24M-3	24MP-3	24	18	40 1/2	29 1/2
24"	1	6	1725	8250	325	—	24MP-4	24	18	40 1/2	29 1/2
24"	3	6	1725	10700	350	—	24MP-5	24	22	40 1/2	29 1/2
30"	1/2	4	1725	8980	320	30M-1	30MP-1	30	18	42	29 1/2
30"	1 1/2	6	1725	12000	350	—	30MP-2	30	18	42	29 1/2
30"	3	2	1725	15450	375	—	30MP-3	30	22	42	29 1/2
34"	1 1/2	2	1725	14850	500	—	34MP-1	34	18	42	29 1/2
34"	2	4	1725	16800	520	—	34MP-2	34	21	42	32
34"	3	3	1150	19000	550	—	34MP-3	34	26	42	32
42"	2	4	1725	20900	650	—	42MP-1	42	21	44	38
42"	2	4	870	21500	675	—	42MP-2	42	21	44	38
42"	5	4	1150	29000	700	—	42MP-3	42	27	44	38

NEW



Heavy Duty Industrial Air Blaster

20 inch

Force-Cools and Ventilates Indoors and Out

A specially developed heavy duty all-weather design unit for ventilating and cooling uses such as the forcing of fresh air into ship's holds, transformer and machinery cooling, heat dispersion in steel mills, kilns, etc.

- All-weather type totally-enclosed continuous duty, ball bearing motors.
- 20-inch one-piece cast aluminum alloy propellers, with 5 deep-pitch blades designed for large volume air delivery and high forward air velocity. Accurately balanced for minimized vibration.
- Heavy 2-piece galvanized protective guard, permits easy access to propeller for inspection and cleaning.
- Large waterproof terminal box for ease in making electrical connections.

Provision included for use of Type "S" connection cord for exterior use.

- Welded structural steel base and supports, hot-dip galvanized and cross-braced for extra strength and rigidity.
- Ruggedly constructed tilting device permits adjustment of motor and fan assembly to direct air stream to any desired upward angle from horizontal to vertical. Locking device holds fan rigidly at desired angle.

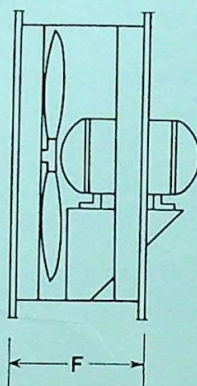
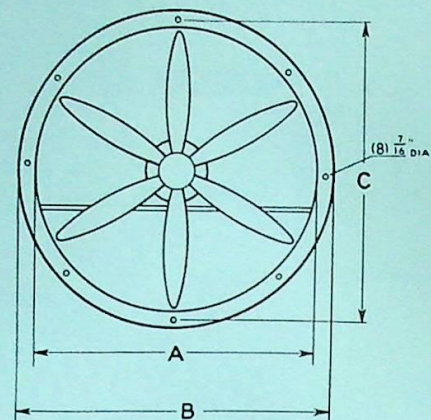
ALTERNATING CURRENT — 60 CYCLES

Dia. of Blade	H.P.	Approx. R.P.M.	Approx. C.F.M.	Approx. Ship. Wt. (Lbs.)	Catalog No.	
					1-Phase 115/230 Volts	3-Phase 220/440 Volts
20"	1	1750	6200	150	20TF-1	20TF-2

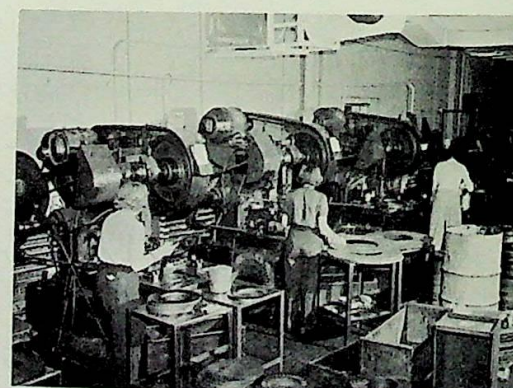
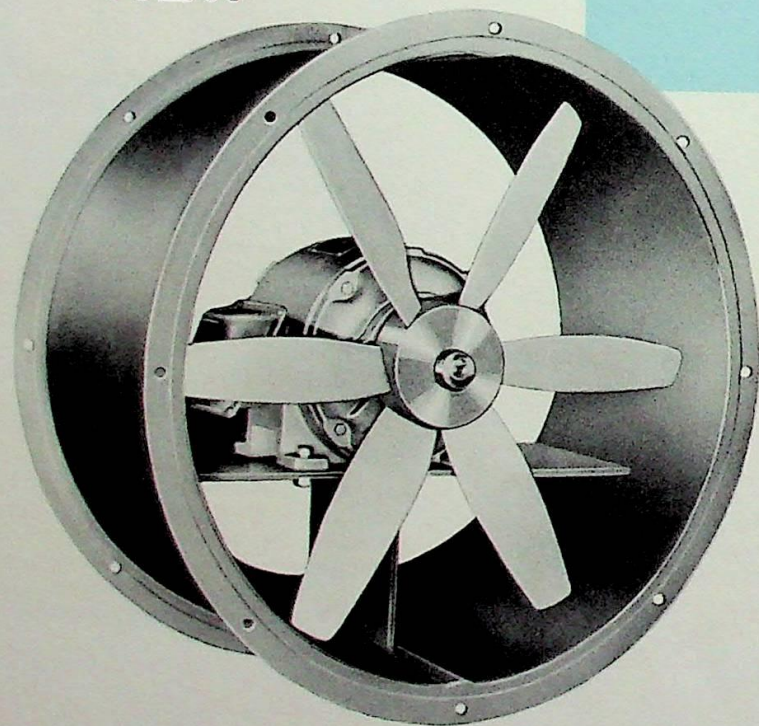
Direct Drive Duct Fans

18 to 60 inch

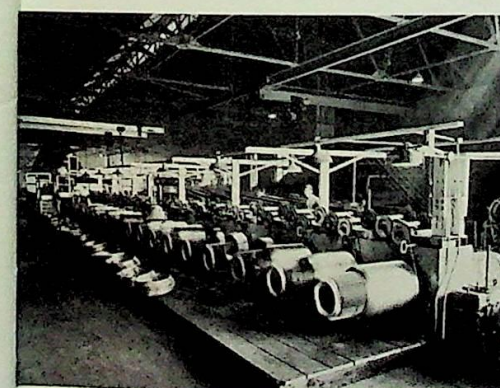
For Heavy Duty Duct Applications



NEW



DIEHL Direct Drive Duct Fans provide for continuous, heavy duty service against moderate to high static pressures in applications where it is permissible to operate with motor in the air stream. Can be used for either inlet or outlet ducts.



- Complete sturdily constructed pre-fabricated unit. Easy to bolt into duct in place of duct section it replaces and occupies only the same amount of space.
- Matching mounting flanges obtainable at addition in cost.
- Heavy gauge steel duct section, arc

welded construction. Flanges drilled for ease in mounting.

- Heavy duty, totally-enclosed ball bearing motor, direct connected to blades.
- Rugged cast aluminum blades, non-sparking, carefully balanced.

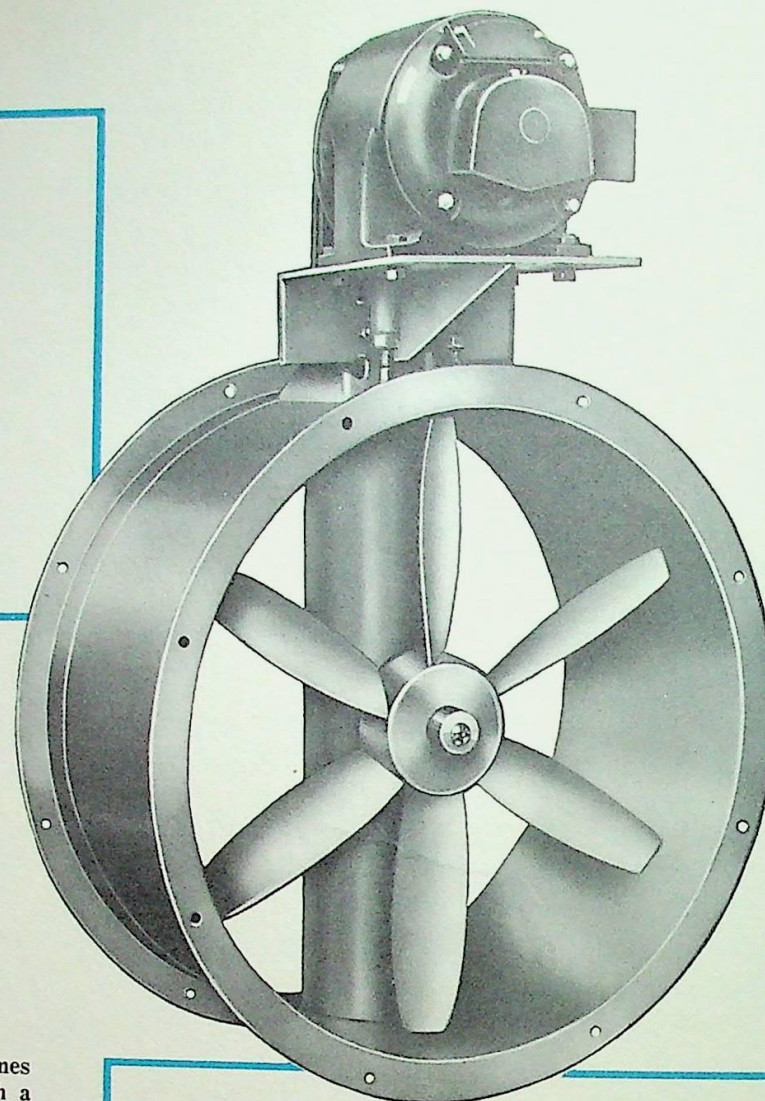
ALTERNATING CURRENT — 60 CYCLES

Dia. of Blade	H.P.	No. Blades	Approx. R.P.M.	Approximate C.F.M.						Approx. Ship. Wt. (Lbs.)	Catalog No.		Approx. Dimensions (Inches)			
				0" S.P.	1/8" S.P.	1/4" S.P.	1/2" S.P.	3/4" S.P.	1" S.P.		1-Phase 115 Volts	3-Phase 220-440 Volts				
													A	B	C	F
18"	1/4	4	1725	3450	3050	2500				60	18D-1	18DP-1	18	20	19	12
18"	1/3	6	1725	3750	3450	3050	1250			90	18D-2	18DP-2	18	20	19	12
18"	1	6	1725	5500	5200	5000	4400			100	18D-3	18DP-3	18	20	19	12
24"	1/4	2	1725	5200	4200	2870				96	24D-1	24DP-1	24	27	25 1/2	12
24"	1/2	4	1725	6510	5880	5800	3100			114	24D-2	24DP-2	24	27	25 1/2	12
24"	3/4	6	1150	7700	6900	6300	1000			120	24D-3	24DP-3	24	27	25 1/2	12
24"	1	6	1725	8250	7780	7200	5800	3880	1200	150	24D-4	24DP-4	24	27	25 1/2	12
24"	3	6	1725	10700	10400	10100	9300	8000	6050	190		24DP-5	24	27	25 1/2	12
27"	1/2	4	1725	7550	6820	6000	4000	1350		122	27D-1	27DP-1	27	30	28 1/2	12
27"	1	4	1725	9600	9000	8400	7050	5400	2800	152	27D-2	27DP-2	27	30	28 1/2	12
27"	2	6	1725	11500	11200	10700	9300	7300	4500	175		27DP-3	27	30	28 1/2	12
30"	1/4	2	1725	6710	5000	3100				110	30D-1	30DP-1	30	33	31 1/2	12
30"	1/2	4	1725	8980	7650	6300	3400			128	30D-2	30DP-2	30	33	31 1/2	12
30"	2	6	1725	12300	11600	10900	8100	4400		185		30DP-3	30	33	31 1/2	12
30"	3	2	1725	15450	14800	14150	12800	11150	7700	200		30DP-4	30	33	31 1/2	12
34"	1 1/2	4	1725	14850	13600	12100	8300	4800		175		34DP-1	34	37	35 1/2	12
34"	2	4	1725	16800	15450	14200	11400	8300	4300	200		34DP-2	34	37	35 1/2	12
34"	3	6	1725	20350	19300	18650	16000	5330		230		34DP-3	34	37	35 1/2	12
34"	3	3	1150	19000	18800	18350	16300	5000		250		34DP-4	34	37	35 1/2	14
42"	2	4	1150	20900	19400	18950	14200	7900	4300	260		42DP-1	42	45	46 1/2	15
48"	1	2	1150	19000	15700	12000	2500			265	48D-1	48DP-1	48	51	49 1/2	15
60"	3	2	1150	39000	35300	30000	16500			300		60DP-1	60	63	61 1/2	15

Belt Drive Duct Fans

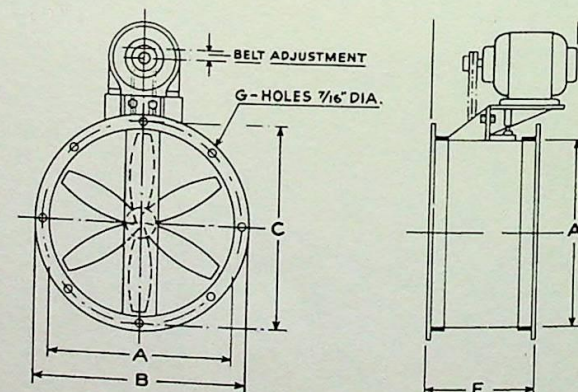
12 to 42 inch

For Paint Spray Booths
and Similar Applications



For the effective exhausting of flammable fumes (gaseous elements) or abrasive dust through a duct. Outstanding design characteristics make them ideal for this class of service. Can be mounted for either vertical or horizontal operation.

- Complete ruggedly built pre-fabricated unit for bolting into a duct in place of a duct section. Easy to install.
- Heavy duty, open drip-proof type ball bearing continuous duty motor, mounted on adjustable base outside the duct.
- Heavy cast aluminum non-sparking, corrosion-resistant blades with oversize ball bearings totally-enclosed in a cast aluminum housing. Lifetime lubricated.
- The duct section and motor base are ruggedly constructed of welded steel.
- Belt is completely enclosed in a welded steel housing, entirely out of the air stream.



FAN SIZE

Multiply width by height of booth opening by 125.

EXAMPLE:

Width of opening 7'

Height of opening 7'

49'

Multiply by 125.

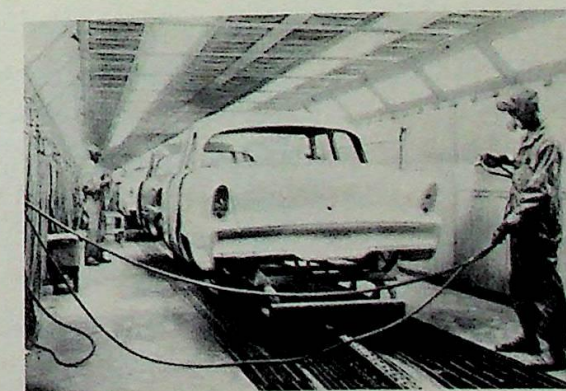
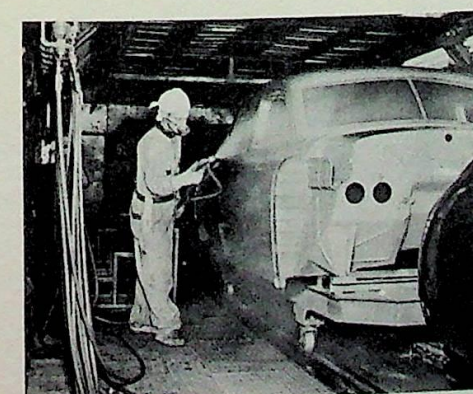
Average Required C.F.M. **6125.**

ALTERNATING CURRENT—60 CYCLES

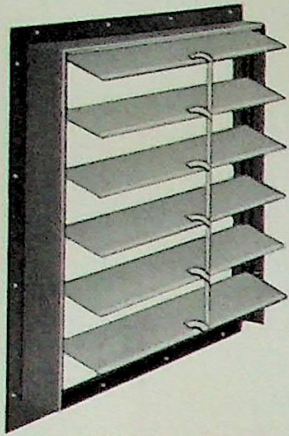
Dia. of Blade	H.P.	Volts		No. Blades	Approx. Blade R.P.M.	Estimated Free Air Delivery (C.F.M.)	Approx. Ship. Wt. (Lbs.)	Catalog No.	FAN DIMENSIONS			
		1-Phase	3-Phase						A	B	C	F
12"	1/4	115	220	4	1725	1180	68	12PD 1/4	12"	14"	13"	12"
12"	1/2	115	208-220	4	3450	2360	72	12PD 1/2	12"	14"	13"	12"
18"	1/4	115	220	4	1725	3450	80	18PD 1/4	18"	20"	19"	12"
18"	1/3	115	208-220	6	1725	3750	85	18PD 1/3	18"	20"	19"	12"
18"	1/2	115/230	220/440	6	1890	4250	95	18PD 1/2	18"	20"	19"	12"
24"	1/4	115	220	2	1725	5200	103	24PD 1/4	24"	27"	25 5/8"	12"
24"	1/2	115/230	220/440	4	1725	6510	125	24PD 1/2	24"	27"	25 5/8"	12"
24"	1	115/230	220/440	6	1725	8250	145	24PD1	24"	27"	25 5/8"	12"
24"	1 1/2	—	220/440	6	1890	8675	150	24PD1 1/2	24"	27"	25 5/8"	12"
24"	2	—	220/440	6	1600	9300	170	24PD2	24"	27"	25 5/8"	12"
27"	1/2	115/230	220/440	4	1725	7550	135	27PD 1/2	27"	30"	25 5/8"	12"
27"	1	115/230	220/440	4	1725	9600	155	27PD1	27"	30"	25 5/8"	12"
27"	1 1/2	—	220/440	6	1600	11300	160	27PD1 1/2	27"	30"	25 5/8"	12"
27"	2	—	220/440	6	1725	12400	210	27PD2	27"	30"	25 5/8"	12"
30"	1/4	115	220	2	1725	6710	118	30PD 1/4	30"	33"	31 5/8"	12"
30"	1/2	115/230	220/440	4	1725	8980	140	30PD 1/2	30"	33"	31 5/8"	12"
30"	1 1/2	—	220/440	6	1600	12000	165	30PD1 1/2	30"	33"	31 5/8"	12"
30"	2	—	220/440	6	1725	12300	200	30PD2	30"	33"	31 5/8"	12"
34"	1 1/2	—	220/440	2	1725	14850	175	34PD1 1/2	34"	37"	35 5/8"	12"
34"	2	—	220/440	4	1725	16800	210	34PD2	34"	37"	35 5/8"	12"
34"	3	—	220/440	4	1725	19350	275	34PD3	34"	37"	35 5/8"	12"
42"	2	—	220/440	4	1150	20900	260	42PD2	42"	45"	43 5/8"	15"
42"	3	—	220/440	4	1217	24450	275	42PD3	42"	45"	43 5/8"	15"
42"	5	—	220/440	4	1375	29200	325	42PD5	42"	45"	43 5/8"	15"

ORDERING INFORMATION:

When ordering, designate Catalog No. of fan and specify voltage, frequency and number of phases desired.



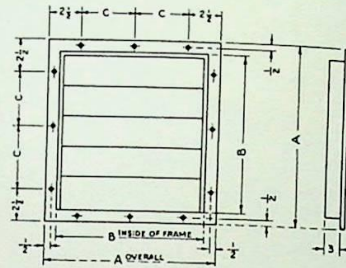
Accessories



GRAVITY OPERATED SHUTTERS

Mounting frame is made of heavy welded steel to insure long service life. Edges are flanged and drilled for easy installation. Light-weight aluminum shutters, hinged on strong aluminum alloy rods, open from fan pressure, do not impede flow of air. When fan is turned off, gravity causes them to close automatically. Louvers are edged with felt for quieter operation, more effective sealing when closed. Brass bearings protect moving parts. 36 inch and larger shutters are two-panel construction. Packed individually in cartons, shipped ready for installation.

Dia. of Blade	Approximate Dimensions (Inches)			No. of Holes	No. of Panels	Approx. Ship. Wt. (Lbs.)	Light Duty Cat. No.	Heavy Duty Cat. No.
	A	B	C					
10-12"	15	12	10	8	1	8	W12	HW12
16"	19	16	14	12	1	9	W16	HW16
18"	21	18	16	12	1	11	W18	HW18
24"	27	24	21	16	1	15	W24	HW24
30"	33	30	27	16	1	19	W30	HW30
36"	39	36	33	20	2	26	W36	HW36
42"	45	42	39	20	2	33	W42	HW42
48"	51	48	45	20	2	37	W48	HW48



MOTOR OPERATED SHUTTERS

Even when the fan is operating at low speed, the motor drive holds louver fully open. Air is exhausted freely, with no resistance. The tight-closing aluminum louvers pivot on two brass bearings. Motor and gear mechanism is self contained and located inside the shutter frame. Shutter motor is connected in parallel with fan motor for instantaneous operation from a single switch.

Dia. of Blade	Overall Dimensions (Inches) Square	Approx. Ship. Wt. (Lbs.)	115 Volts 60 Cycles, 1-Phase	220/230 Volts 60 Cycles, 1- and 3-Phase
			Cat. No.	Cat. No.
12"	15 1/4	13	12AMS-1	12AMS-2
16"	19 1/4	19	16AMS-1	16AMS-2
18"	21 1/4	21	18AMS-1	18AMS-2
24"	27 1/4	27	24AMS-1	24AMS-2
30"	33 1/4	33	30AMS-1	30AMS-2
36"	39 1/4	46	36AMS-1	36AMS-2
42"	45 1/4	54	42AMS-1	42AMS-2
48"	51 1/4	67	48AMS-1	48AMS-2

† Can also be supplied for 440 volts, 60 cycles, 3-phase. These shutters will carry Catalog Numbers 12AMS-4, 16AMS-4, etc.

Accessories (Continued)

STEEL PENTHOUSES

For Economical, Space-Saving Roof Ventilation

Economically afford many of the advantages of power roof ventilation. They are so designed that they are watertight and rigid, without soldering of joints and corners. All the dovetail joints are made so that when the unit is assembled it locks itself in position.

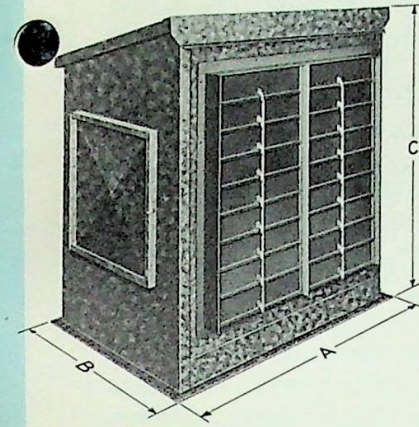
They are shipped completely assembled unless otherwise specified.

Penthouses are obtainable, in all sizes listed, with gravity-operated aluminum shutters or motor-operated aluminum shutters.

The penthouses provide ample air intake area when installed with or without curb construction. This construction is recommended to insure water tightness and rigidity. Curbs may be of wood or concrete but must not exceed 3-inches in thickness and 4-inches in height. Data sheet giving all essential dimensions and size of roof openings will be furnished on request.

Access for Servicing: Side door in sizes 36-inches and larger; through removable roof in smaller sizes.

Insulation: Penthouses with Plastic No-Drip insulation are obtainable for applications where excessive moisture and condensation are encountered. These units are shipped assembled to insure tight bonding of the lining.



STEEL PENTHOUSES WITH SHUTTERS (Not including fans)

Dia. of Blade	Overall Dimensions (Inches) Including Flange			With Gravity-Operated Shutters		With Motor-Operated Shutters		
				Approx. Ship. Wt. Lbs.	Penthouse Catalog No.	Approx. Ship. Wt. Lbs.	Penthouse Catalog No.	
	A	B	C				115 Volts 60 Cycles, 1-Phase	▲ 220 Volts 60 Cycles, 1 and 3-Phase

FOR DIRECT DRIVE PANEL MOUNTED FANS (Pages 4, 5, 6 and 7)

16"	25	31	31	110	DGP-16-1A	120	ADMP-16-5A	ADMP-16-6A
18"	29	35	35 1/2	120	DGP-18-1A	130	ADMP-18-5A	ADMP-18-6A
24"	35	38	42	165	DGP-24-1A	180	ADMP-24-5A	ADMP-24-6A
30"	41	43	49	220	DGP-30-1A	240	ADMP-30-5A	ADMP-30-6A
36"	47	50	56	280	DGP-36-1A	300	ADMP-36-5A	ADMP-36-6A
42"	53	54	63 1/4	370	DGP-42-1A	370	ADMP-42-5A	ADMP-42-6A
48"	59	68 3/4	70 1/4	440	DGP-48-1A	440	ADMP-48-5A	ADMP-48-6A

FOR BELT DRIVE PANEL MOUNTED FANS (Pages 8 and 9)

24"	33	42 1/8	40 1/2	165	BGP-24-1A	180	ABMP-24-3A	ABMP-24-4A
30"	39	48 1/2	47	220	BGP-30-1A	240	ABMP-30-3A	ABMP-30-4A
36"	45	55 3/4	54 1/4	280	BGP-36-1A	300	ABMP-36-3A	ABMP-36-4A
42"	51	62	61 1/4	350	BGP-42-1A	370	ABMP-42-3A	ABMP-42-4A
48"	57	66 3/4	68 1/4	410	BGP-48-1A	440	ABMP-48-3A	ABMP-48-4A

FOR DIRECT DRIVE FANS WITH EXPLOSION-PROOF MOTORS (Pages 10 and 11)

16"	25	31	31	110	DEP-16-1A	Not supplied for fans equipped with explosion-proof motors.
18"	27	33	33	120	DEP-18-1A	
24"	33	38	40	165	DEP-24-1A	

FOR HIGH PRESSURE PANEL MOUNTED FANS (Pages 12, 13, 14 and 15)

For data and dimensions, refer to the factory.

▲ Can also be supplied for 440 volts, 60 cycles, 3-phase. Catalog numbers on request.

PROTECTIVE REAR WIRE GUARDS

Provide protection against accidental contact with exhaust fan blades. These easily-installed, sturdy, cold drawn iron wire guards can be supplied to fit all standard types and sizes of DIEHL Exhaust Fans. Attractively finished in gray enamel. Guards are supplied as an accessory and for attachment by the purchaser.

FAN Cat. No.	GUARD Cat. No.	Approx. Ship. Wt.
10EQD16	10RG	5 lbs.
12EQD16	12RG	6 lbs.
16EQD16	16RG	7 lbs.
16FPD16	16RPG	7 lbs.
18FPD16	18RPG	10 lbs.
24FPD16	24RPG	12 lbs.
30FPD16	30RPG	14 lbs.
36FPD16	36RPG	17 lbs.



EXHAUST and VENTILATING FANS

Application Data

DIEHL EXHAUST AND VENTILATING FANS are tested in accordance with the American Society of Heating, Ventilating and Air Conditioning Engineers' Code, and the purchaser is guaranteed that each DIEHL fan will deliver its full rated capacity. To secure desired results, much depends on the careful selection of a fan with proper rating for each given application, and on correct installation of the fan. The information that follows will be found helpful in fan selection and installation for most of the ventilation problems ordinarily encountered:

General Instructions: DIEHL propeller type exhaust fans, correctly applied as to size and location, provide a desirable and economical method of ventilation. They operate most efficiently when handling rated air volume against as little resistance to free air flow as possible, and when installed directly opposite the fresh air intake to provide cross ventilation throughout the entire area to be ventilated.

Whenever practicable, the fan should be installed to exhaust air in same direction as prevailing winds. Back drafts or winds blowing against the fan or against a gravity-operated shutter, if one is installed, reduce the volume of air exhausted. When fan is installed in a wall it is generally advisable to locate it near the ceiling, thus drawing out the hot air, gases or fumes which have a tendency to rise. When gases heavier than air are to be exhausted, the fan should be near the floor. Screens of fine mesh should *not* be placed on the outside of an exhaust fan. They restrict the air flow by reducing the air velocity, and clog up with dirt which further causes back pressure against the fan wheel. When screens of fine mesh are indispensable, they should provide at least a 50% larger cross sectional area than that of the fan opening.

Mounting: Panel-mounted fans should be secured directly to the exhaust opening provided. Ring-mounted fans may be attached directly to the wall or partition in which a circular hole has been

provided of diameter not less than that of the inside of the fan ring. If preferred, the fan may be mounted on a metal or wood panel which is then secured to the exhaust opening. If quiet operation is essential, put a strip of felt between the ring or panel and the mounting surface and place felt washers under the heads of the mounting bolts to give a cushioning effect.

Air Intake: Opened windows or other means of intake must be provided for entrance of fresh air to replace the air discharged by the fan, and should be so located that the fresh air will enter at points opposite to or furthest from the fan to insure cross-ventilation. The air stream follows the path of least resistance, hence, intake openings near the fan will reduce its effective operation and the ventilation of the room or enclosure.

Air Exhaust: To prevent back-pressure on the fan and consequent reduced air volume, the exhaust opening provided should never be of smaller diameter than that of the fan wheel. Never place a door on the outside of an exhaust fan—if blown shut by the wind or left closed through oversight while fan is operating the excessive resistance to air flow will overload and harm the motor.

Shutters: Gravity-Operated: To protect the fan and to keep out cold air currents, rain and snow when the fan is not operating, we recommend the installation of gravity-operated shutters. They are made with aluminum leaves which open by the force of the air stream when the fan is running and close automatically by gravity when the fan stops. For best results, the shutters should be mounted 8 to 12 inches away from the face of the fan wheel.

Motor-Operated: These shutters have many advantages which more than offset their greater cost. They permit fan to exhaust air freely without resistance, and with much greater efficiency than when gravity-shutters operated by the fan air stream are used. They are of decided advantage when the fan is operated at low speeds since they open fully regardless of air velocity.

Penthouses: For installations where the only practical method of exhausting air is through the roof. They are constructed of heavy gauge galvanized steel, weather-proofed, and are provided with a gravity-operated aluminum shutter or motor-operated shutter in the air discharge side of the penthouse. An access door in one side of the penthouse (sizes 36-inch, 42-inch and 48-inch), permits lubrication of the bearings and general servicing of the fan motor. This servicing can be easily accomplished in the smaller size pent-

Application Data (Continued)

houses by merely removing the penthouse roof. Penthouses should preferably be installed so the fan exhausts in the direction of the prevailing winds.

DIEHL penthouses are also available with Plastic No-Drip insulation lining for use where condensation or moisture during cold weather is a problem. These units are shipped assembled to insure tight bonding of the lining.

Ducts: Propeller fans are not recommended for exhausting air through long runs of sheet metal pipe or duct work. A duct 10 feet long is permissible with Exhaust Fans—provided the duct is not smaller in diameter than the fan wheel and the bends are smooth and well rounded. This will to some extent, however, reduce the air delivery of the fan.

Occasionally it is necessary to install propeller fans in connection with a short length of duct work and a required bend. In such cases, the bend should never be an abrupt angle with sharp corners. The proper and most efficient way to pull air around a bend is to construct the duct with smoothly rounded corners to allow the air to flow with minimum resistance.

The cross-sectional area of a duct should be not less than $1\frac{1}{4}$ times the area of the opening in the fan panel or ring. *Never use a duct smaller than the diameter of the fan wheel.*

In building the duct, be sure to provide for accessibility to the fan for bearing lubrication and fan servicing.

Service Conditions: Motors of standard type are not intended to withstand excessive temperatures and humidity, nor can they be used where explosive atmosphere is prevalent. For these conditions, select fans with motors which are designed to

meet the specific requirements of the installation.

How to Select the Correct Size of Fan: Determine the cubical content of the room or area to be ventilated (length x width x depth) and divide this figure by the number of minutes in which the air should be changed, as given below. The result will be the air delivery per minute required. For example: A store measuring 50 feet long by 25 feet wide by 8 feet high has a content of 10,000 cubic feet, and Preferred Ventilation and Cooling Effect is desired. The table below indicates a required air change every two minutes. Divide 10,000 by 2 and the result, 5,000, is the cubic feet of air delivery per minute necessary for the required ventilation. The fan selected should have a capacity equalling or exceeding this figure.

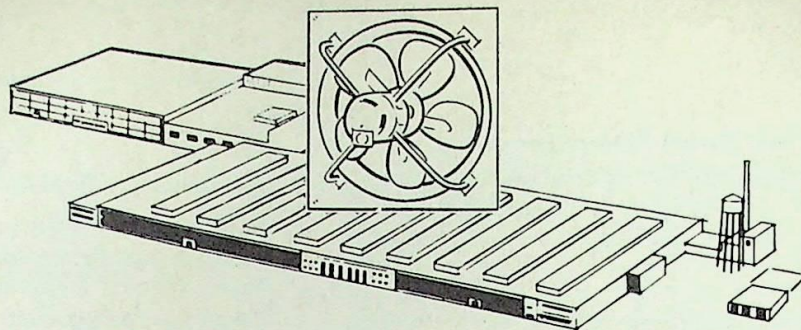
Class of Building	Suggested Air Change	
	*Preferred Ventilation and Cooling Effect (Minutes)	Normal Ventilation (Minutes)
Stores.....	2	5
Offices.....	2	5
Factories.....	3	6
Restaurants.....	1	2
Hotel Kitchens.....	1	2
Garages.....	3	6
Laundries.....	1	3
Meeting Halls.....	2	5
Churches.....	2	5
Theaters.....	2	5
Attic (Home) Ventilation.....	1	3
Engine Rooms.....	2	2
Toilets.....	2	3
Farm Barns.....	{ 200 c.f.m. per Cow 80 c.f.m. per Horse	
Poultry Houses.....	{ 1/2 to 4 c.f.m. per Chicken	

*Maximum benefit is obtainable by these rapid air changes since the increased air movement accelerates the removal of heat, odors and spent air.



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The services of our sales engineers are available for advice, without obligation, when ventilating problems are encountered which require specialized knowledge. Write or telephone our nearest Sales Office.



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Electrical Division of THE SINGER MANUFACTURING COMPANY

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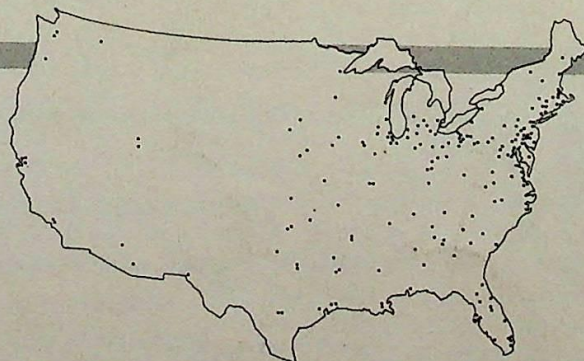
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The prompt and efficient servicing of DIEHL Ventilating Equipment has been provided for through the establishment of more than 200 Authorized Service Stations across the nation.

These service stations have been selected and appointed because of their competence in promptly and intelligently maintaining or repairing equipment of our manufacture in the communities which they serve.



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